# Learning ‘for’ and ‘in’ the future: on the role of resilience and empowerment in education

**Citation for published version (APA):**

Lambrechts, W. D. B. H. M. (2020). Learning ‘for’ and ‘in’ the future: on the role of resilience and empowerment in education. UNESCO.

**Document status and date:**
Published: 01/08/2020

**Document Version:**
Publisher's PDF, also known as Version of record

**Please check the document version of this publication:**

• A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
• The final author version and the galley proof are versions of the publication after peer review.
• The final published version features the final layout of the paper including the volume, issue and page numbers.

Link to publication

**General rights**
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the “Taverne” license above, please follow below link for the End User Agreement:

https://www.ou.nl/taverne-agreement

**Take down policy**
If you believe that this document breaches copyright please contact us at:

pure-support@ou.nl

providing details and we will investigate your claim.

Downloaded from https://research.ou.nl/ on date: 16 Nov. 2026

Open Universiteit
www.ou.nl

Education Sector

United Nations Educational, Scientific and Cultural Organization

Background paper for the Futures of Education initiative

# Learning ‘for’ and ‘in’ the future: on the role of resilience and empowerment in education

by Wim Lambrechts

Assistant Professor Open Universiteit (the Netherlands), Visiting Professor Hasselt University (Belgium)

August 2020

This paper was commissioned by UNESCO as background information to assist in drafting the Futures of Education report to be published in 2021. It has not been edited by UNESCO. The views and opinions expressed in this paper are those of the author(s) and should not be attributed to UNESCO. This paper can be cited with the following reference: Lambrechts, W. 2020. Learning ‘for’ and ‘in’ the future: on the role of resilience and empowerment in education. Paper commissioned for the UNESCO Futures of Education report (forthcoming, 2021).

# Abstract

Rapid societal changes and unexpected crises call for other conceptualizations of education. On the one hand, education in the post-truth era has been called to strengthen the focus on information literacy and critical thinking, specifically within the context of digital information and fake news. On the other hand, societal disruptions such as COVID-19 show the importance of dealing with unexpected and complex adversity, and education is called to focus on pedagogies of preparedness and frustration tolerance. The golden threat between these events is the importance of resilience and empowerment as key features of future education, both in enabling the learner to become a critical thinker, and to become a resilient citizen. Combining both perspectives, as well as framing competences within the capabilities approach, provides necessary boundary conditions to lead flourishing lives in the future.


# Introduction

In the past years, education has been called upon to contribute to societal sustainability transitions (e.g. through the United Nations Decade of Education for Sustainable Development). In further elucidating the role of education in these transition processes, focus has been set on individual sustainability competences, such as 'systems thinking' and 'future-oriented thinking' (or 'anticipatory thinking'). Such conceptualizations inevitably hold ideas about the future. However, in clarifying the role of education 'for' and 'in' the future, we have to deal with some challenges. First, learning 'for' the future indicates that education prepares students for their future role in society. However it implicitly also assumes that we know what future generations will require in order to fulfil their needs. This might be problematic as it imposes specific competences and learning outcomes that we think will be relevant for the future, but at the same time we are uncertain what that future will be like. Second, learning 'in' the future indicates that it is possible to predict how future learning will be organised. Despite the possibilities we have to foresee, make scenarios and forecasts, the future will inevitably hold unknown and unforeseen events, hence it becomes difficult, if not impossible, for us to predict what learning 'in' the future will look like.

How then, can a vision of both learning 'for' and 'in' the future be drafted? This contribution explores different avenues, based on contemporary and historical perspectives. The future will evolve in a direction that we cannot entirely predict, but we know that the future will be grounded in society today. Therefore, I will look at some of the societal developments that influence present learning. These contemporary developments are grounded in near and far history and pose difficult and fundamental questions about the role of education in society. Societal boundary conditions have been changing rapidly: the coming of the 'post-truth' era (e.g. the Cambridge Analytica scandal) and the global rise of populism; and more recently the global crisis resulting from the COVID-19 pandemic. Rapid societal changes and unexpected crises call for other conceptualizations of education. On the one hand, education in the post-truth era has been called to strengthen the focus on information literacy and critical thinking, specifically within the context of digital information and fake news. On the other hand, societal disruptions such as COVID-19 show the importance of coping with unexpected and complex adversity, and education is called to focus on pedagogies of preparedness and frustration tolerance. The golden threat between these events is the importance of empowerment and resilience as key features of future education, both in enabling the learner to become a critical thinker, and to become a resilient citizen.

## Wicked sustainability issues (e.g. climate change)

Today's society is characterized by a multitude of problems, in the literature referred to as 'wicked problems' and 'super wicked problems'. Wicked problems were already described in the 1970s as complex and difficult to define problems for which there is no clear solution (Rittel & Webber, 1973). Sustainability issues can be considered super wicked problems, referring to their complexity and uncertainty, as well as the urgency to address the problem. An example of a super wicked problem is climate change (Levin et al., 2012). Since the publication of the first definition of sustainable development in 1987 (development that meets the needs of the present without compromising the ability of future generations to meet their own needs, WCED, 1987), a myriad of interpretations and perspectives have been discussed and presented. These range from rather optimistic, techno-centred and growth oriented perspectives in the business context (e.g. Dyllick & Hockerts, 2002), to critical interpretations in which sustainability cannot be regarded as a goal because of the uncertainty involved (e.g. Benson & Craig, 2014).

The complexity of super wicked problems, such as sustainability issues, manifests itself in the interrelations of ecological, social, economic, ethical, political, cultural, religious, technological and other influencing factors. Uncertainty is related to the future dimension of such super wicked problems: what we think (suspect, believe) today is a sustainable solution can be considered fundamentally unsustainable tomorrow. The (recent) history provides sufficient examples: the use of products containing asbestos (mainly popular in buildings in the post-war period) was banned around the turn of the century because of its harmful health effects; biodiesel, which was considered a possible solution to the climate problem in the 1990s, was subsequently criticised because of its detrimental environmental effects. Sustainability issues are complex, uncertain, and thus subject to processes of progressive understanding (Lambrechts, 2019).

What role education can or should play in such super wicked problems, is food for discussion. The increasing attention to Education for Sustainable Development (ESD) has led to a stream of publications in which education is attributed the goal of contributing to the solution of sustainability issues. Criticism arose with regard to the economic interpretation of such goals (Tickly et al., 2020), as well as the point that such a goal brings too much guidance, and can therefore lead to indoctrination (e.g. Jickling & Wals, 2008). This is closely related to the complexity and especially the uncertainty of sustainability issues. The concept of ESD raises the expectation that education will be able to provide solutions to the problems of the future. However, we do not know exactly how the problems will evolve in the future, and therefore we do not know which solutions can or should be offered.

## The post-truth era (e.g. fake news)

The current era is increasingly referred to as the 'post-truth' era, in which democracy is in a state of crisis (Peters, 2017), characterised by the spread of fake news (often on digital platforms), and growing populism. This raises critical questions regarding the role of education in a post-truth context. The years 2019 and 2020 are characterised by global mobilisation of citizens in climate marches (e.g. Vaughan, 2019) and the Black Lives Matter movement (e.g. Rojas, 2020). However, increasing criticism and dissemination of fake news (e.g. on climate change, Lambrechts, 2019) also led to a counter-movement that criticised these protests and citizens participating in them.

The post-truth era, characterized by an abundance of (online) information and fake news, emphasizes the importance of information literacy in education (Johnston & Webber, 2003; ten Dam & Volman, 2004). In this context, education is called upon to strengthen critical thinking in relation to digital information. Misleading information and fake news are disseminated via (digital) platforms, and an attitude of critical thinking seems to be absent in today's society (Peters, 2017). Nussbaum points out that the lack of critical thinking is problematic in a democratic society: “In order to foster a democracy that is thoughtful and deliberative, and not just a marketplace of competing interest groups, a democracy that truly takes into account the common good, we should produce citizens who have the Socratic capacity to reason about their beliefs. It is not good for democracy that people vote based on feelings that have absorbed from the media and have never questioned. This lack of critical thinking produces a democracy in which people talk to each other, but never hold a genuine dialogue. In such a climate, bad arguments pass for good, and prejudice can easily be confused with reason. To uncover prejudice and to ensure fairness, we need discussion, an essential tool of civic freedom” (Nussbaum, 1998: 42). Students should develop a critical mind-set, which enables them to become engaged citizens and participate in democratic processes. It is therefore important to frame critical thinking in the context of complex and uncertain sustainability issues as well (Lambrechts & Van Petegem, 2016).

Over the years, more weight has been given to economic perspectives in the discussion about the goals of education (Sherren, 2008). This process is believed to be influenced by neoliberalism and growing ‘economisation’ of education, and has consequences for individual and social goal formulation of education. In an economic context, the individual goal of education is to provide the individual with the 'right' (instrumental) skills, in order to be able to function in an economic setting (a job). The social goal is then combined into a focus on economic efficiency, in which other factors (e.g. culture) shift to the background, or are positioned in economic efficiency thinking. The result of this shift is twofold. First, it leads to an artificial, strict separation, between knowledge and skills. This is problematic because knowledge, skills and behaviour are closely related. Second, it reduces education from a broad learning process (e.g. bildung; flourishing) to a narrow and instrumental acquisition process of a number of skills, selected on the basis of their usefulness in a (current, specific) economic context. When purely economic interests are decisive, social aspects of education are supplanted. It creates the impression that education is isolated from the social and societal issues, while of course the two cannot be seen separately from each other (Lambrechts, 2019).

Regarding the neoliberal influence and economisation of education, Nussbaum points to the importance of rethinking education and research, given the increasing focus on 'impact' in research: “the pressure for economic growth has led many political leaders in Europe to recast the entirety of university education - both teaching and research - along growth-oriented lines, asking about the contribution of each discipline and each researcher to the economy” (Nussbaum, 2010: 127). Such an orientation is detrimental to research activities that contribute to social transition processes in the context of sustainability, in which the economic impact is often more difficult to prove: “Science and technology are important, and nations are surely right to focus on the prosperity that they promise to bring. It would be disastrous, however, if the other parts of a liberal education were short-circuited in the process, producing nations of smart engineers who have little capacity for empathetic imagining and for critical thinking” (Nussbaum, 2006: 394). Nussbaum therefore advocates a basic scientific education, with a focus on critical thinking, logic, imagination, rather than merely based on narrow, applied and instrumental research skills. Renewed focus on critical thinking and research-oriented competences (e.g. Lambrechts & Van Petegem, 2016) might contribute to empowerment of the learner in a post-truth context, in order to cope with –and be critical towards– often contradictory information, make informed choices that enable them to lead flourishing lives.

# Societal disruptions (e.g. COVID-19)

Societal disruptions, such as the crisis following the COVID-19 pandemic, have detrimental effects on social and economic systems. Schools and businesses were closed, while restrictions and lockdowns forced families to organize their everyday lives radically different. And however many of us could work and study from home, the pandemic also caused growing inequalities, both between North and South, as within the most prosperous societies (e.g. Burgess & Sievertsen, 2020; Van Lancker & Parolin, 2020). COVID-19 has forced us to deal with an unexpected and radical disruption, and while the first restrictive measures had the purpose to control the pandemic on the short term, the long-term effects remain largely uncertain. What is expected however, is a global recession with severe economic and social consequences. It is within this context that the UNESCO International Commission on the Futures of Education stated that "we have arrived at a moment – however unexpectedly – where collectively revisiting the purposes of education has become imperative" (UNESCO, 2020a: 4).

Societal disruptions –often caused or influenced by super wicked problems– are believed to occur more often in the future (e.g. Singer, 2020). Under the influence of such fundamental disruptions, education is called upon to play its role. On the one hand, this role lies in developing other ways of teaching and learning. COVID-19 has shown that it is possible to rapidly shift towards other modes of operation. More specifically, the shift to widespread off-campus and online education has been made, albeit sometimes on trial-and-error basis (Burgess & Sievertsen, 2020). While it is believed that online education will continue to play an important role in the future, we must guard quality issues, as well as optimal combinations of on- and off-campus learning. Ideally, future learning will be time- and place independent, meaning that the learner can learn, acquire competences and develop capabilities whether it be online, offline, combined, blended, etc.; and in which formal, non-formal and informal learning are combined and valued. On the other hand, and this holds more challenges, education has a role to play in implementing pedagogies of preparedness, dealing with adversity, and frustration tolerance. As we do not know when a new disruption will occur, in what form and with which consequences, it is simply insufficient to organize learning based on fixed mental models and the formulation of rigid learning outcomes. Rather, we should prepare the learner to cope with uncertainty, to deal with adversity, and to be resilient during disruptive times. This requires other mind-sets than the ones education is based upon nowadays.

Different authors have already drafted possible avenues to guide learning processes to deal with (super)complexity, uncertainty and disruptions. Gordon (2006) and Tauritz (2012) call to embrace uncertainty in education. Barnett (2000; 2012) and Buckingham (2014) point towards epistemological problems and state that (higher) education should adopt a new epistemology for supercomplexity and uncertainty. Tauritz (2012; 2016) presents a number of 'uncertainty competences' as well as design principles for uncertainty pedagogies, allowing uncertainty and making it negotiable in the learning process. As Barnett (2012) points out, predefined learning outcomes are not sufficient to deal with supercomplexity and societal disruptions. In addition, focus should be set on empowering the learner, to be able to cope with complexity and uncertainty, and strengthen resilience.

# Education ‘for’ and ‘in’ the future: towards resilience and empowerment

Advanced competences are required to cope with the complexity and uncertainty of super wicked problems (Lambrechts & Van Petegem, 2016). In the literature these competences are often referred to as “key competences for sustainable development”, “individual sustainability competences” (ISCs), or “uncertainty competences” (e.g. Barth et al., 2007; Ploum et al., 2018; Tauritz, 2016). ISCs are related to empathy, emotional intelligence, normativity, systems thinking and anticipatory thinking, as well as action-oriented traits (Wiek et al., 2011; Rieckmann, 2012), an example of such an ISC is the ability to foresee the causal relations between actions and decisions and their (negative) consequences in intra- and intergenerational perspective. Furthermore, ISCs have been framed in the context of a virtue ethics perspective, pointing towards the importance of ‘doing what is right’ (Blok et al., 2015).

Contemporary education embraced the concepts of competences, skills, abilities, capabilities, and mind-sets. However, the way how these were introduced lacks a holistic approach (see on this discussion: Lambrechts & Van Petegem, 2016). It comes as no surprise that the competence approach has been criticized for being focused towards the economic goals of education, providing instrumental skills rather than holistic competences throughout the learning process. As pointed out by Mogensen and Schnack (2010): “the focus on knowledge and skills has almost vanished without a trace in favour of an emphasis on personal virtues like creativity, flexibility, adaptability, and so on, treated in a rather technical and individualistic manner with effectiveness as the main value” (Mogensen & Schnack, 2010: 64).

However, the notion of competence, combining knowledge, skills, attitudes and values could have the potential to contribute to broad learning processes, on the premise that a holistic and systemic vision is adopted, something which has been missing in conservative educational settings (see Lambrechts et al., 2018 on this issue). Recently, within the context of the UNESCO Futures of Education initiative (UNESCO, 2020b), a variety of authors have been calling for more holistic perspectives in education (Colonna, 2020; Hall & Tandon, 2020; Mantatov et al., 2020; Hopkins et al., 2020; Padovani & Ross, 2020; Singer, 2020). How then, can the gap between instrumental skill settings, and broad, holistic views of education oriented towards empowerment and resilience, be closed? In what follows, I provide some possibilities based on the works of John Dewey and Martha Nussbaum.

Dewey offers insights to develop visions of the futures of education. For Dewey, education has the aim to prepare citizens to lead flourishing lives, framed within and connected to progressive societal improvement (Lambrechts et al., 2018). Sherren (2008) proposes a stronger conceptual framing in interdisciplinarity, cosmopolitanism and social doctrine. In a social context in which citizens work together, participate in a community, and give a shared meaning to what they do, various stakeholders also have a contribution to make to the transition to sustainability. Education has a role to play in contributing to solutions for social problems and in teaching critical skills so that citizens are able to make well-informed choices when participating in society. This also means that education must slow down on the path of economic efficiency thinking, combined with renewed efforts to integrate critical thinking into societal context. A critical view of traditions and customs in a society is important, and education must therefore contribute to the development of these critical competences among its citizens (Nussbaum, 2009). This will be an important future role of education, given the post-truth context, and in relation to complex sustainability issues and uncertain disruptions (cf. Lambrechts et al., 2018). Learning to deal with super wicked problems at this juncture requires not only individual sustainability competences such as systems thinking and anticipatory thinking, but also a personal critical attitude towards the

information one obtains through a multitude of channels. Hence, empowerment of citizens, in order to enable them to make critical and informed decisions, becomes a crucial part of education.

According to Dewey (1916), education should prepare citizens to be adaptive in a changing society. The parallels between Dewey's time and the contemporary timeframe are apparent (cf. Lambrechts et al., 2018), as economic and managerial approaches are increasingly introduced in education, under the influence of New Public Management and neoliberal market discourse (Bessant et al., 2015; Kopnina & Cherniak, 2016). This has consequences for the independent status of education and leads towards challenges in quality control (Boni & Gasper, 2012). Nussbaum points towards the adverse effects of education oriented (solely or mainly) towards economic profit making (Nussbaum, 2010). Economic finality is an important part of the social goal of education, but should not be the only point of reference for determining how education should be designed. The current social 'post-truth' context also requires a broad education (*bildung*) aimed at critical thinking and flourishing. Alternative economic perspectives might contribute to counteract negative effects of a focus on economic efficiency in education (White, 2013), such as the proposal that happiness should be the common good in society (Layard, 2005). Introducing such perspectives has consequences for individual sustainability competences as well, e.g. by focusing on a virtuous perspective (Blok et al., 2015).

The concept of flourishing is also at the heart of Nussbaum's capabilities approach. Building on previous work of Amartya Sen (1999) and herself, Nussbaum proposes ten 'central capabilities', necessary to be fostered in education: life; bodily health; bodily integrity; senses, imagination and thought; emotions; practical reason; affiliation; other species; play; control over one's environment (Nussbaum, 2010; 2011). The capabilities and their description are presented in table 1. Furthermore, Nussbaum foresees an important role for arts, humanities, and science education, as these foster critical thinking, logical analysis and imagining capacities. She intends a basic scientific education and research, rather than focusing on applied and instrumental skills (Nussbaum, 1997; 2010). The fulfilment of capabilities depends on 'functionings', the combination of actions one does in order to lead his or her life. Functionings can be instrumental (e.g. reading, writing, having a job) or complex (e.g. being happy, leading a healthy lifestyle), and Nussbaum stresses the importance of choice in these functionings (Lessmann, 2009; Nussbaum, 2000). What is missing in the original list of Nussbaum's capabilities, and what she also acknowledges (e.g. Nussbaum, 2011: 143), is the framing of her capabilities approach in current issues like global warming and other wicked problems, and the implications of this framing for education. These issues require the notions of complexity and uncertainty to be introduced, whether it be in a competence approach or a capability approach.

Figure 1. Ten central capabilities

| | |
|---|---|
| 1. Life | Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living. |
| 2. Bodily Health | Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter. |
| 3. Bodily Integrity | Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction. |
| 4. Senses, Imagination, and Thought | Being able to use the senses, to imagine, think, and reason—and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and |

| | |
|---|---|
| | so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to have pleasurable experiences and to avoid non-beneficial pain. |
| 5. Emotions | Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.) |
| 6. Practical Reason | Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience and religious observance.) |
| 7. Affiliation | 1. Being able to live with and toward others, to recognize and show concern for other humans, to engage in various forms of social interaction; to be able to imagine the situation of another. (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.)<br><br>2. Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of non-discrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, national origin and species. |
| 8. Other Species | Being able to live with concern for and in relation to animals, plants, and the world of nature. |
| 9. Play | Being able to laugh, to play, to enjoy recreational activities. |
| 10. Control over one's Environment | 1. Political. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.<br><br>2. Material. Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers. |

*Source: Nussbaum, 2011: 30-31.*

In referring to the similarities and differences between the capabilities approach and the competence approach (as outlined by Lozano et al., 2012) as well as the call to interlink the capabilities approach with sustainability education (e.g. Tickly et al., 2020), I argue that the capabilities approach might provide a useful context for the development of sustainability competences. In order to foster holistic perspectives in education, and surpass reductionist approaches focusing on economic skills, Individual Sustainability Competences or Uncertainty Competences could be interpreted as complex functionings, e.g. to think anticipatory, to understand different systemic effects of one's actions, to think critically in a sustainability context. Such functionings have a normative side, as Nussbaum reflects, however individual freedom is a key element in the realisation of functionings. In Nussbaum's view, governments should ensure all capabilities for citizens to enable them to lead meaningful lives, if and how they do this (their functionings), is a personal choice and remains out of the control of

governments. Framing competences in the capabilities approach, might offer opportunities to reconnect to this normative side, as well as foster holistic conceptions of knowledge, skills, attitudes and values in light of sustainability and uncertainty. In a context of sustainability and super wicked problems, education remains an important factor in helping citizens to render capabilities into functionings, to understand complexity and the importance of virtues and values, without being paternalised or indoctrinated.

Conceptualizing individual sustainability competences and uncertainty competences as functionings of capabilities, might pave the way to envision truly holistic notions of competence development and flourishing, and foster empowered and resilient citizens. Empowered, through enabling the learner to flourish, and make informed decisions (whether individual or societal). Resilient, through embracing and deliberating uncertainty in the learning process, as well as dealing with adversity and frustration.

## Conclusion: fostering holistic approaches of flourishing

The purpose of education has always been a point of (philosophical) discussion. Is the primary goal aimed at individual development? Or is it at the service of societal (social, democratic, economic) goals? For Aristotle, the primary goal of education was *Eudaimonia*: the good, flourishing life, and the role of the individual in the community. The good life is an interesting notion for education in light of complex and uncertain issues. It leads to the question which education will lead to the good life? What do we need to learn for personal flourishing in such context? A double goal was always put forward for education: the provision of knowledge enabling the individual to lead a flourishing and good life (individual perspective), and the pursuit of progress and improvement in society (common perspective). Current philosophical discourses reconnect to the concept of flourishing, but argue that global capitalism has eliminated 'Deweyan-inspired' education (Kitcher, 2009). According to Nussbaum, education for an inclusive type of citizenship is oppressed by education oriented towards economic profit making (Nussbaum, 2010). Under such circumstances, education fails to enable flourishing: "it is almost a truism that for many students school work fails to become a flourishing-instantiating activity simply because it does not carry meaning for them. Instead, they become ensnared by anxiety, emptiness or apathy" (Kristjánsson, 2017: 98).

Education is increasingly expected to prepare students for the complexity and uncertainty of sustainability issues in society. This focus is the result of international initiatives such as the United Nations Decade of Education for Sustainable Development (2005-2014), and more recently the Sustainable Development Goals (Sustainable Development Goals, 2015). These goals (including goal number 4, 'Quality Education') are increasingly being endorsed by all social partners. Once again, however, they risk seeing sustainability too much as an objective, without taking into account the tension between paternalism and relativism (e.g. Lambrechts et al., 2018). A variety of competences have been defined and conceptualised in relation to sustainability, complexity and uncertainty, yet the original concept of competence, holistic in nature, was integrated into the old, educational context in a muddled and fragmented form. As a result, certain competences, as well as values, essential in the context of sustainability, are insufficiently addressed (Lambrechts et al., 2013). If the transition to a truly holistic approach of individual sustainability competences and uncertainty competences were to be made, a systemic approach, in which competences are framed in their social and societal context, instead of a reduced focus on economic relevance, would also become possible. Framing competences as functionings or functional capabilities, might provide further pathways to conceptualise holistic approaches of flourishing in education.

This contribution looked at the dual (individual-societal) purpose of education from a particular perspective: that of complex and uncertain issues and disruptions in a post-truth society, and drafted a vision for the futures of education, with a focus on empowerment and resilience.

Empowerment is oriented towards dealing with complexity and post-truth characteristics. The role of education is then to prepare citizens to be critical, make informed decisions, understand and deal with societal challenges. Rather than reductionist educational approaches, framed within and in service of economic growth models, this empowerment should foster diversity in viewpoints and perspectives, other conceptualisations of welfare (economic; social; ethical; etc.), values and virtues related to humans, other species, and the earth. Some examples have been already introduced into education, which could help in further deploying empowerment through learning, e.g. critical approaches to diversity and equality; growing attention to social learning and social entrepreneurship; etc.

Resilience is oriented towards dealing with uncertainty, adversity and disruptions. The role of education is then to prepare citizens to cope with uncertainty and adversity, by introducing uncertainty in education, embracing it and discussing it. Understanding disruptions helps in coping with them, and strengthens resilience for future shocks. Resilience has been introduced in educational terms, e.g. through courses focusing on individual, organizational or systems resilience. Yet such approaches should be critical to how (non-)resilient current and future economic and social models are or should be. Alternative models that foster resilience should be valued as well, e.g. by focusing on resilient forms of living, such as the commons; degrowth; community supported agriculture; re-appreciation of indigenous and local ecological knowledge; etc.

Both the post-truth context and the disruptive effects of global crises such as COVID-19, force us to rethink possible futures of education. Empowerment and resilience can be seen as a golden threat in coping with future challenges. Empowerment enables the learner to become a critical thinker in societal context, resilience enables the learner to cope with adversity, uncertainty and frustration. Combining both perspectives, as well as framing competences within the capabilities approach, provides necessary boundary conditions to lead flourishing lives in the future.

# References


Barnett, R. (2000). University knowledge in an age of supercomplexity. *Higher education*, *40*(4), 409-422.

Barnett, R. (2012). Learning for an unknown future, *Higher Education Research & Development, 31*(1), 65-77.

Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. *International Journal of Sustainability in Higher Education*, *8*(4), 416–430.

Benson, M. H., & Craig, R. K. (2014). The end of sustainability. *Society & Natural Resources*, *27*(7), 777-782.

Bessant, S. E. F., Robinson, Z. P., & Ormerod, R. M. (2015). Neoliberalism, new public management and the sustainable development agenda of higher education: history, contradictions and synergies. *Environmental Education Research*, *21*(3), 417–432.

Blok, V., Gremmen, B., & Wesselink, R. (2015). Dealing with the wicked problem of sustainable development: The necessity virtuous competence. *Business and Professional Ethics Journal*, *34*, 297-327.

Boni, A., & Gasper, D. (2012). Rethinking the Quality of Universities: How Can Human Development Thinking Contribute? *Journal of Human Development and Capabilities*, *13*(3), 451–470.

Buckingham, W. (2014). Communicating Not-Knowing: Education, Daoism and Epistemological Chaos, *China Media Research, 10*(4), 10-19.

Burgess, S., & Sievertsen, H. H. (2020). Schools, skills, and learning: The impact of COVID-19 on education. *VoxEu. org*, *1*. Available online: https://voxeu.org/article/impact-covid-19-education (Date accessed: 11 August 2020).

Colonna, A. (2020). Creating communities of knowledge and connecting to landscape. In: UNESCO, *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France, 16-20.

Dewey, J. (1916). *Democracy and education: an introduction to the philosophy of education*. New York (N.Y.): Macmillan.

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business strategy and The Environment*, *11*(2), 130-141.

Gordon, M. (2006). Welcoming Confusion, Embracing Uncertainty: Educating Teacher Candidates in an Age of Certitude, *Paideusis, 15*(2), 15-25.

Hall, B., & Tandon, R. (2020). Knowledge democracy: Opening our doors to all knowledge systems. In: UNESCO, *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France, 21-23.

Hopkins, C. A., Michelsen, G., Salite, I., Siegmund, A., Wagner, D. A., Yokoi, A., Fischer, D., Kohl, K., Razak, D. A., & Tilleczek, K. (2020). Sustainability as a purpose on the new path of learning for the future. In: UNESCO, *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France, 58-62.

Jickling, B., & Wals, A. E. J. (2008). Globalization and environmental education: looking beyond sustainable development. *Journal of Curriculum Studies*, *40*(1), 1–21.

Johnston, B., & Webber, S. (2003). Information literacy in higher education: a review and case study. *Studies in Higher Education*, *28*(3), 335–352.

Kitcher, P. (2009). Education, Democracy, and Capitalism. In H. Siegel (ed.) *The Oxford Handbook of Philosophy of Education* (pp. 300–318). New York: Oxford University Press.

Kopnina, H., & Cherniak, B. (2016). Neoliberalism and justice in education for sustainable development: a call for inclusive pluralism. *Environmental Education Research*, *22*(6), 827-841.

Kristjánsson, K. (2017). Recent Work On Flourishing as the Aim of Educatation: A Critical Review. *British Journal of Educational Studies*, *65*(1), 87–107.

Lambrechts, W. (2019). Onderwijs in het post-truth tijdperk. Reflecties over de rol van leren in duurzaamheid en democratie [Education in the post-truth era: Reflections on the role of learning in sustainability and democracy]. *Algemeen Nederlands Tijdschrift voor Wijsbegeerte, 111*(4), 545-565. https://doi.org/10.5117/ANTW2019.4.004.LAMB

Lambrechts, W., Van Liedekerke, L., & Van Petegem, P. (2018). Higher education for sustainable development in Flanders: balancing between normative and transformative approaches. *Environmental Education Research*, *24*(9), 1284-1300.

Lambrechts, W., & Van Petegem, P. (2016). The interrelations between competences for sustainable development and research competences. *International Journal of Sustainability in Higher Education*, *17*(6), 776–795.

Lambrechts, W., Mulà, I., Ceulemans, K., Molderez, I., & Gaeremynck, V. (2013). The integration of competences for sustainable development in higher education: An analysis of bachelor programs in management. *Journal of Cleaner Production*, *48*, 65–73.

Layard, R. (2005). *Hapiness. Lessons from a new science*. New York: The Penguin Press.

Lessmann, O. (2009). Capability and learning to choose. *Studies in Philosophy and Education*, *28*(5), 449–460.

Levin, K., Cashore, B., Bernstein, S., & Auld, G. (2012). Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change. *Policy Sciences*, *45*(2), 123–152.

Lozano, J. F., Boni, A., Peris, J., & Hueso, A. (2012). Competencies in Higher Education: A Critical Analysis from the Capabilities Approach. *Journal of Philosophy of Education*, *46*(1), 132-147.

Mantatov, V., Mantatova, L., & Nasibulina, A. (2020). Humanism and environmental ethical frameworks. In: UNESCO, *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France, 34-38.

Mogensen, F., & Schnack, K. (2010). The action competence approach and the 'new'discourses of education for sustainable development, competence and quality criteria. *Environmental Education Research*, *16*(1), 59-74.

Nussbaum, M. C. (2011). *Creating Capabilities. The Human Development Approach.* Cambridge/London: The Belknap Press of Harvard University Press.

Nussbaum, M. C. (2010). *Not for Profit: Why Democracy Needs the Humanities*. Princeton University Press.

Nussbaum, M. C. (2009). Tagore, Dewey, and the Imminent Demise of Liberal Education. In H. Siegel (ed.) *The Oxford Handbook of Philosophy of Education* (52–66). New York: Oxford University Press.

Nussbaum, M. C. (2006). Education and Democratic Citizenship: Capabilities and Quality Education. *Journal of Human Development*, *7*(3), 385–395.

Nussbaum, M. C. (2000). *Women and Human Development: The Capabilities Approach*. New York: Cambridge University Press.

Nussbaum, M. C. (1998). *Cultivating Humanity: A Classical Defense of Reform in Liberal Education*. Cambridge: Harvard University Press.

Nussbaum, M. C. (1997). *Citizens of the World: A Classical Defense of Reform in Liberal Education*. Cambridge: Harvard University Press.

Padovani, C., & Ross, K. (2020). Ideas for gender-transformative futures of education in the digital age. In: UNESCO, *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France, 153-156.

Peters, M. A. (2017). Education in a post-truth world. *Educational Philosophy and Theory*, *49*(6), 563–566.

Ploum, L., Blok, V., Lans, T., & Omta, O. (2018). Toward a validated competence framework for sustainable entrepreneurship. *Organization & Environment*, *31*(2), 113-132.

Rieckmann, M. (2012). Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, *44*(2), 127–135.

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, *4*(2), 155–169.

Rojas, F. (2020). Moving beyond the rhetoric: a comment on Szetela's critique of the Black Lives Matter movement. *Ethnic and Racial Studies*, *43*(8), 1407-1413.

Sen, A. (1999) *Development as Freedom* (Oxford, Oxford University Press).

Sherren, K. (2008). A history of the future of higher education for sustainable development. *Environmental Education Research*, *14*(3), 238–256.

Singer, S. (2020). Polymathy as the missing link to increase access to relevant knowledge. In: UNESCO, *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France, 196-199.

Tauritz, R.L. (2016). A pedagogy for uncertain times. In: Lambrechts, W., Hindson, J. (eds.), *Research and Innovation in Education for Sustainable Development. Exploring collaborative networks, critical characteristics and evaluation practices*. Environment and School Initiatives – ENSI, ZVR-Zahl 408619713, Vienna, Austria, pp. 90-105.

Tauritz, R.L. (2012). How to handle knowledge uncertainty: learning and teaching in times of accelerating change. In: Wals, A.E.J. and Corcoran, P.B. (eds.), *Learning for Sustainability in times of accelerating change*, Wageningen: Wageningen Academic Publishers.

ten Dam, G., & Volman, M. (2004). Critical thinking as a citizenship competence: teaching strategies. *Learning and Instruction*, *14*(4), 359–379.

Tikly, L., Batra, P., Duporge, V., Facer, K., Herring, E., Lotz-Sisitka, H., McGrath, S., Mitchell, R., Sprague, T., Wals, A. 2020. *Transforming Education for Sustainable Futures Foundations Paper*. Bristol, TESF. https://doi.org/10.5281/zenodo.3952649

UNESCO, International Commission on the Futures of Education (2020a). Protecting and transforming education for shared futures and common humanity. UNESCO Education Sector, ED-2020/FoE-COVID-19/1, s.l.

UNESCO (2020b). *Humanistic futures of learning - Perspectives from UNESCO Chairs and UNITWIN Networks*. UNESCO, France.

Van Lancker, W., & Parolin, Z. (2020). COVID-19, school closures, and child poverty: a social crisis in the making. *The Lancet Public Health*, *5*(5), e243-e244.

Vaughan, A. (2019). Climate protest goes global. *NewScientist, 241*(3221), 7.

WCED. (1987). *Our Common Future*. Oxford: Oxford University Press.

White, J. (2013). Philosophy, philosophy of education, and economic realities. *Theory and Research in Education*, *11*, 294–303.

Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability Science*, *6*(2), 203–218.