EECERA Sustainability SIG Position Statement

SIG Co-Convenors: Sule Alici, Eva Ärlemalm-Hagsér, Fabio Dovigo and Sue Elliott

Working Group Members: Mandy Andrews, Fabio Dovigo, Maria Assunção Folque, Sue Elliott, Nicola Kemp, Jayne Kinley and Muireann Ranta

PREAMBLE

The aim of the EECERA Sustainability SIG is to develop a space for networking and to encourage cross-national research and perspectives in the field of early childhood education and sustainability. The research agenda focuses on ways of understanding early childhood education for sustainability and potentially reciprocal learning. We examine how young children are recognised as rights holders and how they can develop new ways to relate with the world enabling them to be ethically active citizens and advocates for sustainability. A key aspect to consolidating this field of research is to broaden the theoretical and methodological perspectives shared and to promote an investigative approach based on diverse international perspectives.

How sustainability is interpreted or described internationally across the education sphere varies. Environmental Education (EE) has long predominated and is currently employed in Japan and the United States of America. In recent decades, since sustainability as a multidimensional construct came to the fore (World Commission on Environment & Development, 1987), a shift towards education for sustainable development (ESD) and education for sustainability (EfS) has occurred. Notably European countries and specifically UNESCO, employ the term ESD in official education and environmental policies, while Australia and New Zealand have adopted EfS in policy and educational discourses. Whichever term is specifically employed in early childhood education, Ardoin and Bowers (2020) argue for a shared goal of creating 'communities of environmentally active people through engaging young children in meaningful, relevant environmental experiences' (p. 2). In the following statement, we draw upon the UNESCO definition that identifies five interlinked dimensions of sustainability political, economic, social, cultural and natural dimensions defined by UNESCO (2010; 2021). We argue that all decision-making for sustainable futures requires that each dimension be understood and considered in relation to the others.

Aligned international policies with import for early childhood education and sustainability are *The UN Global Action Programme* (GAP) and the 2030 *Sustainable Development Goals (SDG's)* (UNESCO, 2017). These policies are integrated with the dimensions of sustainability and offer a global action plan for developing a sustainable world. The SDG's, in particular, are far reaching and highlight that global sustainability is multi-faceted and not to be achieved by an environmental or human poverty focus alone. However, we recognise critiques of the SDG's including the pervasive western-centric stance; and in particular, SDG 8 which arguably promotes continued GDP growth rather than recognising the responsibilities of existing economic approaches in the global crisis and offering a truly transformative approach. Ghosh (2019) in particular cites the dominant international economic systems as a key hindrance to authentic achievement of SDGs. In addition, the multiplicity of targets and indicators for each of the 17 SDG's are questioned as universally applicable across majority and minority countries, while inherent measurement difficulties are noted (Swain & Yang-Wallentin, 2020). Specifically, King (2017) alerts to the challenges of *SDG 4: Ensure inclusive and equitable quality education and*

promote lifelong learning opportunities for all and proposes the focus on quality has been 'lost in translation' from goals to somewhat minimalist indicators.

Beyond such critiques and in support of our SIG research endeavours, SDG 4 Target 4.7 highlights the demand that all learners are exposed to Education for Sustainable Development (ESD):

> *Target 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*
> *(https://indicators.report/targets/4-7/)*

The GAP and SDG's are integral to a globally transformative agenda and the SIG collaborative research and publication initiatives will strongly support this agenda. The aims of the SIG are to:

- Create a space for critical dialogues and collaborative research about sustainability in early childhood education;
- Develop synergies between participants from a wide range of professional and scientific contexts; and,
- Provide an academic and rigorous forum at European and international levels to develop and disseminate high quality research on sustainability in early childhood education.

STATEMENT

Our EECERA Sustainability SIG draws on current evidence to offer a stance about sustainability in early childhood education and resolutions for moving forward to secure children's present well-being and futures in uncertain global times. We are concerned that the voices of young children, their parents/carers and early childhood practitioners are often overlooked, particularly in relation to issues of global scope and significance. We seek to raise the profile of early childhood education in this arena and draw on and extend both children and practitioners' knowledges and skills about sustainability. The Earth's trajectory is dependent on how we most visibly and urgently engage with systemic change and future planning for global sustainability. Intergenerational inequities and injustices are prescient for young children and they will be responsible in the longer term for planning and meeting sustainability goals. Sustainability concepts and actions informed by research initiatives and innovative policy must be embedded in early childhood education now to offer some certainty for children's futures. In addition, there is potential for later educational phases to build on the strong sustainability foundations established in early childhood education.

CURRENT EVIDENCE

- **Climate Urgency:** The recent Intergovernmental Panel on Climate Change Report (IPCC) (2021) reiterates that climate change is unequivocally caused by humans, and the increase in global average temperatures due to rapidly rising CO_2 levels are unprecedented. The IPCC had previously noted that a temperature rise of 1.5C degrees would decimate ecosystems, exacerbate social and economic disruptions and force migrations (IPCC,

2018). Current indicators are that an increase of 1.2C has already been reached. A tipping point or threshold of 2.0 C is forecast, beyond which current actions to mitigate climate change would be redundant (Steffen et al., 2018). The ongoing internationally significant Conference of Parties (CoP) meetings about climate change are critical for systemically addressing CO2 emissions, but by all accounts are yet to deliver.

- **Biodiversity and toxic environments**: Many decades ago, environmentalist Rachel Carson (1962) first raised concerns about the toxic effects of pesticides in the environment. During the Anthropocene, a toxic environmental legacy has increasingly accumulated with compelling health and wellbeing impacts for all (Centre for Biological Diversity, online). A changing climate along with human population growth, urbanisation and consumerism have dire implications for biodiversity and environmental health. In particular, global biodiversity loss has the potential to destabilise the interdependencies of human and non-human species (European Commission, online). Such loss is now significant in the face of climate change and it is critical to acknowledge how biodiversity loss will negatively influence the interdependencies essential to the health and longevity of all species (IPCC, 2021).

- **Sustainability:** Meanings of sustainability are complex and varied across socio-cultural contexts. Most often, where young children are concerned, sustainability is linked to nature experiences (Elliott & Young, 2015), yet sustainability is most frequently considered as multi-dimensional comprising political, economic, social, cultural and natural dimensions (UNESCO, 2010; 2021). Recognising inter-relationships and inter-dependencies between these five dimensions is core to addressing the challenges of intergenerational equity and social justice for children to thrive in their rapidly changing world. Moreover, in doing so we must remain committed to our concern for the interdependencies of human and non-human species (European Commission online).

- **Shifting epochs, worldviews and theories:** The Anthropocene was coined to describe a geological epoch defined by the pervasive negative human impacts on the Earth's biosphere (Steffen et al., 2007). More recently envisaged is the Ecocene, an ecological epoch promoted by a worldview shift and major changes in values, systems, policies, in other words a collective global transformation (Boehnert, 2018). More holistic thinking about children and the Earth, including ecocentric or biocentric worldviews may also offer a way forward (Davis, 2014) alongside a theoretical rethinking among early childhood educators and researchers to incorporate post humanist and new materialist perspectives (Somerville & Williams, 2015). Critical reflection and revised values and eco-pedagogies informed by research are key to transforming early childhood education.

- **Economic change:** The economic dimension of sustainability has incorporated economic growth linked to Gross Domestic Product (GDP) and such growth is increasingly untenable in the context of addressing global sustainability. Raworth (2017) argues for a radical rethinking and proposes a donut or circular economy acknowledging both social and planetary boundaries for collective human well-being. The aim is to bring humanity into the 'safe and just space between the outer and inner rings of the doughnut through a regenerative and distributive economy' (Raworth, online). The social foundation, derived from the SDGs (UNESCO, 2017), is balanced by the ecological ceiling comprising nine core

planetary boundaries. Without fundamental economic change, Earth Overshoot Days where the human consumption of planetary resources outstrip the Earth's regenerative capacities will persist (https://www.overshootday.org/about/). There are many existing solutions to these challenges, but they are yet to be urgently implemented on a global scale.

- **Children's Rights:** The climate crisis is a child right's crisis (UNICEF, 2021). Climate change is the greatest threat facing the world's children and young people. It is an adult caused problem and therefore, considered an 'intergenerational injustice' for young children and future generations. It is imperative that while, as adults' we acknowledge that education is key for climate change, we must include our children's perspectives as to how that education should be promoted as integral to their participatory and education rights (Engdahl, 2015; Lundy & Martínez Sainz; 2018; Nolan, 2020; Nolan & McGrath 2016).

- **Children's Agency:** Young children are perceived as capable participants in their communities, and more broadly, in civic and democratic societal processes according to contemporary early childhood education theorising (Ärlemalm-Hagsér, 2014; Davis & Elliott, 2014; Mackey, 2012; 2014; Hägglund & Johansson, 2014). Scaffolded by early childhood educators, there is much potential for shared leadership, advocacy and activism for promoting sustainable futures both with and for children (Boyd, 2018; Hirst, 2019; Luff, 2018). However, we recognise that global socio-cultural inequities (Williams, 2021) and a tide of eco-anxiety among youth (Burke et al., 2018) may create challenges in this respect.

- **Children's Health and Well-being:** Global sustainability and children's health and well-being are inextricably linked. Currie and Deschenes (2016) highlighted the negative health impacts for children of increasing global temperatures ranging from disease to food shortages and family dislocation due to extreme weather events. During the developmentally significant ages birth to eight years these impacts are now being witnessed globally and recognised as cause for concern (Clark et al., 2020; Office of the High Commissioner for Human Rights, 2020; WHO, 2017).

OUR STANCE

We recognise the historical origins of early childhood education in societal transformation and change, oftentimes improving children's health and well-being was central to the cause. Contemporary societal transformation, with global sustainability at the fore, is now overdue and young children are most at risk. Early childhood education researchers, educators, policy makers and managers must be advocates and leaders for this societal transformation as an ethical, if not moral, obligation to young children. Our focus is on the relationships between research, policy and practice and seeking to align these with the tenets of early childhood education for sustainability (EfS)/education for sustainable development (ESD). We enact this across local, national and international contexts while cognisant of the diversity of the positioning of sustainability despite international policy support through the SDGs and GAP. We articulate the following principles that we value and seek to embed in early childhood education for urgently enacting ESD:

- **United Nations Convention on the Rights of the Child (UNCRC) (UNICEF, 1989):** The UNCRC is foremost a legal imperative under Articles 3, 12 and 29:

    Article 3: 1. In all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, administrative authorities or legislative bodies, the best interests of the child shall be a primary consideration.
    Article 12: 1. Children have the right to say what they think should happen when adults are making decisions that affect them and to have their opinions taken into account.
    Article 29: 1. States Parties agree that the education of the child shall be directed to: (e) The development of respect for the natural environment.

    Although mandated prior to the current climate urgency, if the UNCRC (UNICEF, 1989) is not robustly upheld, all children and future generations will be impacted for many years to come. The right to a healthy environment is also now integral to the UNCRC as resolved by the UN Human Rights Council (Office of the High Commissioner for Human Rights, 2020). Most recently, General Comment 26 (2023) with a special focus on children and climate change acknowledged the close interrelationships between respect for the natural environment and other ethical values enshrined in Article 29:1. In addition, Davis (2014) has reviewed the human-centric UNCRC focus (UNICEF, 1989) offering an interpretation underpinned by biocentric worldviews in an attempt to address marginalised voices. Beyond human rights, the proposed expanded rights include agentic, participatory, intergenerational, collective, Indigenous, and bio/ecocentric rights (Davis, 2014).

    Implementing the UNCRC effectively and positioning children as a right's holders within their education spaces is a necessary first step for the promotion of ESD. Playful learning opportunities to encompass young children's own participation and perspectives is recommended, not only for more effective sustainability learning, but also as a means of embedding democratic values into early childhood education spaces. Indeed, 'learner participation' is a fundamental component of ESD and a reorientation of all education phases is called for to emphasise empowerment and agency for active citizenship, human rights and societal change (Education Scotland, 2018; 2019). The International Commission on the Futures of Education (2021) further argues 'fundamental changes in curriculum and pedagogy are necessary if we are to build a regenerative education for a common humanity' (p. 15). These are ripe grounds for a regenerative approach to early childhood education around the intersection of children's rights-based education and ESD, the ultimate aim being a more socially and economically just society.

- **New relationships and relationalities:** Early childhood education communities must work with young children and adults on new ways of building relationships and relationalities with the world. This encompasses the human and more than human in both natural and urban spaces. This means to promote children's encounters and involvement with the world, which enhance their sense of belonging that will promote children's becoming with and becoming worldly (Haraway, 2008). Building sustainability from childhood means joining forces with all species, in a symbiotic relationship, to learn to respond to the problems of this world that we have altered and damaged, or as Haraway (2016) proposes, creating the ability to respond (response-ability) for partial recovery and recomposition.

- **ESD approaches:** Authentic, empowering, transformative, contextualised and holistic approaches to ESD are essential. It is widely acknowledged that ESD or EfS translation to early childhood praxis can be challenging (Davis & Elliott, 2014; Elliott et al., 2016) and requires responsive, ethical and contextualised pedagogies. ESD is not a curriculum nor pedagogy add on, but with critical reflection around ecocentric and ecojustice worldviews, can become a pedagogical common ground over time in every early childhood education community. In addition, each transformative journey is highly contextualised across the political, economic, social, cultural and natural dimensions of sustainability (UNESCO, 2010; 2021). Reinvigorated whole school or institutional approaches offer a way forward as recently proposed by Wals (2022) and supported by the European Commission (2022), but yet to be fully explored in early childhood education settings.

- **Educator worldviews, values, attributes, skills and roles**: Educators must critically reflect on their worldviews, values, attributes, skills and roles in adopting ESD approaches for transformative change. This may occur pre-service or in-service, but increasingly research highlights the imperative for engaging educators and building expertise (Alici & Şahin, 2023; Davis & Davis, 2020; Elliott et al., 2016; Hirst, 2019; O'Gorman, 2014). Educators may need to seek information or resources, upskill and build sustainability knowledge or reflect on children's climate rights as intergenerational equity and social justice. Engaging with children, families and the wider community is paramount to locate starting points for change that recognise individual expertise or strengths and the range of perspectives and disciplines with import for embedding sustainability in early childhood education.

- **Government policy**: A full integration of the UNCRC into the SDG's is imperative given the legally binding nature of the UNCRC (Nolan, 2020). This underpins state parties' accountability to commitments made to embed sustainability in curriculum and other overarching policies. Internationally, there is evidence of some shift towards the inclusion of sustainability in early childhood education curricula (Elliott et al., 2020), however concerns are raised about the level of explicit guidance for educators and varied interpretations of sustainability (Weldermariam et al., 2017) and this must be addressed through pre-service and in-service training (Alici & Şahin, 2023; Davis & Davis, 2020). The UNCRC and SDG's as international policies are key reference points in this endeavour to promote global and national policy shifts.

- **Community building**: Connections for capacity building within and beyond early childhood workplace settings are essential. The aim is to develop sustainable and resilient early childhood education communities of practice over time. Collaborative approaches with a constellation of participants across community, government and families can facilitate working together to create 'communities of reference'. There are international case studies of such communities (Davis & Elliott, 2024; Elliott, Ärlemalm-Hagsér & Davis, 2020) that offer global reference points to guide, extend and support ESD practices, networking and research.

- **Management/governance/leadership:** These pervade all aspects of early childhood education service provision, from national authorities to multi-service managers and the directors of individual services. This presents opportunities for the implementation of systems thinking approaches to promote the all-encompassing shifts required for

integrating sustainability (Davis, 2015). Recognising the complexities of the systems and sub-systems, plus their hierarchies and inter-relationships is the first step; and in this respect, early childhood education is often highly complex. Yet many small and large-scale shifts, such as policy reviews to embed sustainability, infrastructure or management process changes to be more sustainable and transformative leadership for sustainability have the potential to create ripples of positive change through the entire ECE system.

- **Majority and minority world countries:** In working towards global sustainability for all, the social and economic inequities between majority and minority world countries must be recognised, including access to high quality early childhood education. Minority-world countries are most often described as developed countries with relatively small populations, while majority-world countries described as less developed and more highly populated. In relation to sustainability, the human impacts on the Earth are predominantly caused by minority world countries (see Earth Overshoot Days https://www.overshootday.org/about/), yet increasingly majority world countries, and particularly their children, bear the impacts by climate change events and are least equipped to deal with them. The SDGs (UNESCO, 2017) offer guidance to address these global inequities, but most recently, the United Nations Conference of Parties (CoP 27) agreed to fund more vulnerable countries for 'loss and damage' due to climate change disasters (https://unfccc.int/news/cop27-reaches-breakthrough-agreement-on-new-loss-and-damage-fund-for-vulnerable-countries).

- **First Nations Peoples:** The international recognition of First Nation Peoples knowledges and spiritual systems as interwoven with globally sustainable futures is paramount. Such recognition is also core to the priorities of social and economic justice for all. In addition, integral to the ongoing processes of reconciliation, it is critical to include the First Nation Peoples' ways of relating to the land and Elder's ancient wisdoms in local contexts. From diverse geographies, Ritchie (2014), Miller (2014) and Harwood et al. (2020) invite the interweaving of global sustainability and First Nation Peoples knowledges with mutual benefit in the arena of early childhood education.

- **Research:** Since Davis (2009) first identified a significant research gap in early childhood ESD, a research base to inform both theoretical and pedagogical shifts has emerged (Ardoin & Bowers, 2020; Davis & Elliott, 2014; Elliott et al., 2020; Hedefalk, Almqvist & Östman, 2014; Somerville & Williams, 2015). In tandem, research networks have been established such as the Transnational Dialogues in ECEfS Research and a Sustainability Special Interest Group (SIG) within the European Early Childhood Education Research Association (EECERA). Consolidating and expanding this research work is much needed to lead and promote ongoing uptake of ESD by early childhood educators and researchers alike.

RESOLUTIONS

We resolve to promote ESD in early childhood education with the following actions prioritised:

1. Curriculum policy change and alignment within policy agendas from health, environment and education perspectives.

2. Educator initial and continuous professional learning and development for local contexts with protracted views towards broader sustainability goals.
3. Funded research initiatives to inform policy and practice through critical reflection, innovation and transformative change across the field.
4. Multi-stake holder collaboration at local and global levels to facilitate broad systemic change.
5. Sustainable service infrastructure initiatives to model ESD good practice.

REFERENCES

Alici, S. & Şahin, V. (2023). Fostering Turkish early childhood teachers' professional growth about education for sustainability through media literacy. *EGITIM VE BILIM-EDUCATION AND SCIENCE*, https://doi.org/10.15390/eb.2023.11643

Ardoin, N., & Bowers, A. (2020). Early childhood environmental education: A systematic review of the research literature. *Education Research Review, 31*, 1-16. https://doi.org/10.1016/j.edurev.2020.100353

Ärlemalm-Hagsér, E. (2014). Examining the Rhetoric: A comparison of how sustainability and young children's participation and agency are framed in Australian and Swedish early childhood education curricula. *Contemporary Issues in Early Childhood, 15*(3), 231-244.

Boehnert, J. (2018). *Design, ecology, politics: Towards the Ecocene*. Bloomsbury.

Boyd, D. (2018). Early childhood education for sustainability and the legacies of two pioneering giants. *Early Years*, [online] *38*(2), 227–239, https://doi.org/10.1080/09575146.2018.1442422

Burke, S. E., Sanson, A. V., & Van Hoorn, J. (2018). The psychological effects of climate change on children. *Current Psychiatry Reports*, *20*(5), 35.

Carson, R. (1962). *Silent Spring*. Houghton Mifflin.

Clark, H., Coll-Seck, A., Banerjee, A., Peterson, S. et al. (2020). A future for the world's children? A WHO–UNICEF–Lancet, *The Lancet Commissions, 395*, 605-658.

Currie, J., & Deschenes, O. (2016). Children and climate change: Introducing the issue. *The Future of Children, 26*(1), 3–9.

Davis, J. (2014). Examining early childhood education through the lens of education for sustainability: Revisioning rights. In J. Davis & S. Elliott (Eds.), *Research in early childhood education for sustainability: International perspectives and provocations* (pp. 21-37). Routledge.

Davis, J. (2015). *Young children and the environment.* Cambridge University Press.

Davis, J. M. & Davis, J. E. (2020). Early childhood teacher education and education for sustainability: A review of the literature and mapping of courses. In S. Elliott, E. Ärlemalm-Hagsér & J. Davis (Eds.) (2020), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (Vol. 2) (pp. 111-124). Routledge.

Davis, J. & Elliott, S. (Eds.) (2024). *Young children and the environment (3rd Edn.).* Cambridge University Press.

Davis, J. & Elliott, S. (Eds.) (2014). *Research in early childhood education for sustainability: International perspectives and provocations*. Routledge.

Education Scotland. (2018). *Learner participation in educational settings (3-18).* Education Scotland.

Education Scotland. (2019). *Learning for sustainability action plan.* Education Scotland.

Elliott, S., Ärlemalm-Hagsér, E. & Davis, J. (Eds.) (2020). *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (Vol. 2). Routledge.

Elliott, S., & Davis, J. (2018). Challenging taken-for-granted ideas in early childhood education: A critique of Bronfenbrenner's Ecological Systems Theory in the age of post-humanism (online). In A. Cutter-Mackenzie-Knowles, K. Malone & E. Barrett-Hacking (Eds.), *Research handbook on childhoodnature: Assemblages of childhood and nature research*. Springer International Handbooks of Education. Springer.

Elliott, S., McCrea, N., Newsome, L., & Gaul, J. (2016). *Examining environmental education in NSW early childhood education services: A literature review with findings from the field*. NSW Office of Environment & Heritage Environmental Trust. http://www.environment.nsw.gov.au/grants/dissemination.htm

Elliott, S. & Young, T. (2015). Nature by default in early childhood education for sustainability. *Australian Journal of Environmental Education*. http://dx.doi.org/10.1017/aee.2015.44

Engdahl, I. (2015). Early childhood education for sustainability: The OMEP World Project. *International Journal of Early Childhood,* [online], 47, 347-366. https://doi.org/10.1007/s13158-015-0149-6

European Commission (online). Biodiversity and climate change. Biodiversity and Climate Change - Environment - European Commission (europa.eu)

European Commission (2022). *Council recommendation on learning for environmental sustainability: Staff working document.* European Commission. https://education.ec.europa.eu/document/commission-staff-working-document-accompanying-the-document-proposal-for-a-council-recommendation-on-learning-for-environmental-sustainability

Ghosh, J. (2019). *3 obstacles that stand in the way of the UN's Sustainable Development Goals.* World Economic Forum. https://www.weforum.org/agenda/2019/09/3-obstacles-that-stand-in-the-way-of-the-un-s-sustainable-development-goals/

Hägglund, S. & Johansson, E. (2014). Belonging, value, conflicts and children's rights in learning for sustainability in early childhood. In J. Davis & S. Elliott (Eds.), *Research in early childhood education for sustainability: International perspectives and provocations* (pp. 38-48). Routledge.

Haraway, D. (2008). *When species meet*. University of Minnesota Press

Haraway, D. (2016). *Staying with the Trouble - Making Kin in the Chthulucene*. Duke University Press.

Harwood, D. et al., (2020). Unsettling settlers' ideas of land and relearning land with Indigenous ways of knowing in ECEfS. In J. Davis & S. Elliott (Eds.), *Research in early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. 25-37). Routledge.

Hedefalk, M., Almqvist, J. & Östman, L. (2014). Education for sustainable development in early childhood education: A review of the research literature. *Environmental Education Research*, *21*(7), 975-990, DOI: 10.1080/13504622.2014.971716.

Hirst, N. (2019). Education for sustainability within early childhood studies: Collaboration and inquiry through projects with children. *Education 3-13*, [online], *47*(2), 233-246, DOI: 10.1080/03004279.2018.1430843

Intergovernmental Panel on Climate Change [IPCC]. (2021). *AR6 Synthesis Report: Climate Change 2022.* http://ipcc.ch/.

Intergovernmental Panel on Climate Change [IPCC]. (2018). *Global Warming of 1.5°C.* http://ipcc.ch/.

King, K. (2017). Lost in translation? The challenge of translating the global education goal and targets into global indicators. *Compare: A Journal of Comparative and International Education, 47*(6), 801-817. https://doi.org/10.1080/03057925.2017.1339263

Luff, P. (2018). Early childhood education for sustainability: Origins and inspirations in the work of John Dewey. *Education 3-13,* [online], *46*(4), 447-455, https://doi.org/10.1080/03004279.2018.1445484

Lundy, L. & Martínez Sainz, G, (2018). The role of law and legal knowledge for a transformative Human Rights Education: Addressing violations of children's rights in formal education. *Human Rights Education Review,* [online], *1*(2), 5-24, http://doi.org/10.7577/hrer.2560

Mackey, G. (2012). To know, to decide, to act: The young child's right to participate in action for the environment. *Environmental Education Research*, [online], *18*(4), 473-484, DOI: 10.1080/13504622.2011.634494

Mackey, G. (2014). Valuing agency in young children: Teachers rising to the challenge of sustainability in the Aotearoa New Zealand early childhood context. In Davis, J. & Elliott, S. (Eds.), *Researching early childhood education for sustainability: International perspectives and provocations* (pp. 180-193). Routledge.

Miller, M. (2014) Intercultural dialogues in early childhood education for sustainability: Embedding Indigenous perspectives. In J. Davis & S. Elliott (Eds.), *Research in early childhood education for sustainability: International perspectives and provocations* (pp. 63-78). Routledge.

Nolan, A. & McGrath, S. (2016). SDG 4 and the child's right to education. In Norrag, *Education, training and agenda 2030: What progress one year on*? [online], https://www.norrag.org/education-training-and-agenda-2030-what-progress-one-year-on/

Nolan, A. (2020). Poverty and child rights. In J. Todres & S. M. King (Eds*.), The Oxford Handbook of Children's Rights Law* (pp. 405-425). Oxford University Press.

Office of the High Commissioner for Human Rights. (2020). *Realizing the rights of the child through a healthy environment*. https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26022&LangID=E

O'Gorman, L. (2014). The arts and education for sustainability: Shaping student teachers' identities towards sustainability. In J. Davis & S. Elliott (Eds.), *Research in early childhood education for sustainability: International perspectives and provocations* (pp. 266-279). Routledge.

Raworth, K. (2017). *Doughnut Economics: Seven ways to think like a 21st-century economist.* Penguin Random House.

Raworth, K. (online). *Kate Raworth: Exploring doughnut economics.* https://www.kateraworth.com/doughnut/

Ritchie, J. (2014). Learning from the wisdom of elders. In J. Davis & S. Elliott (Eds.), *Research in early childhood education for sustainability: International perspectives and provocations* (pp. 49-60). Routledge.

Somerville, M. & Williams, C. (2015). Sustainability education in early childhood: An updated review of research in the field. *Contemporary Issues in Early Childhood, 16*(2), 102–117.

Steffen, W., Crutzen, P. J. & McNeill, J. R. (2007). The Anthropocene: Are humans now overwhelming the great forces of nature? *Ambio ol. 36*(8), 614-621.

Swain, R. B. & Yang-Wallentin, F. (2020). Achieving sustainable development goals: Predicaments and strategies. *International Journal of Sustainable Development & World Ecology, 27*(2), 96-106. https://doi.org/10.1080/13504509.2019.1692316

The Centre for Biological Diversity. https://www.biologicaldiversity.org/campaigns/toxics_and_endangered_species/index.html

The International Commission on the Futures of Education (2021). *Futures of education: Learning to become, Progress update*. UNESCO.

United Nations Development Program (UNDP) (2020). *Human development report 2020: The next frontier Human development and the Anthropocene*. United Nations Development Program.

UNESCO (2010). *Four dimensions of sustainable development*. www.unesco.org/education/tlsf/mods/theme_a/popups/mod04t01s03.html

UNESCO (2017). *Sustainable development goals*. http://www.un.org/sustainabledevelopment/

UNESCO (2021). *Sustainable Development.* Sustainable Development (unesco.org)

UNICEF (2021). *The climate crisis is a child right crisis.* UNICEF.

United Nations Committee on the Rights of the Child (CRC). (2023), *General comment No 26 (2023) on Children's Rights and the Environment with a specific focus on climate change*. UN General Assembly.

Wals, A. (2022). *Whole School Approaches (WSA) to Sustainability – Principles, Practices and Prospects – Call for Contributions.* https://transformativelearning.education/tag/whole-school-approach/

Williams, J. (2021). *Climate change is racist: Race, privilege and the struggle for climate justice*. Icon Books Ltd.

Weldemariam, K. et al. (2017). A critical analysis of concepts associated with sustainability in early childhood curriculum frameworks across five national contexts. *International Journal of Early Childhood, 49*, 333–351.

World Commission on Environment & Development (WCED). (1987). *The Brundtland report: Our common future.* Oxford University Press.

World Health Organization (2017). *Inheriting a sustainable world? Atlas on children's health and environment.* World Health Organization.