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| Report from the 8th Transnational Dialogues on Early Childhood Education for Sustainability Research

| Eva Ärlemalm-Hagsér and Sue Elliott (Eds.)

| Mälardalen University, Sweden
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Where to next? Examining the gaps, issues and needs in Early Childhood Education for Sustainability Research



Childhood in the Anthropocene

Photo (Cover): TND8 participants at Eskilstuna University, August 2023.



The new journal *Childhood in the Anthropocene* will primarily disseminate findings from the research activities conducted within the research group Childhood in the Anthropocene – Education and Sustainability at Mälardalen University, Sweden. The overall aim of the journal is to contribute to the debate in educational research in the field of early childhood education for sustainability. Contributions to the journal will include research articles, theoretical discussions, reports, reflective essays and reviews. Established in 2024, the journal will be published once or twice yearly pending the volume of academic submissions. In this first issue, we are pleased to share collated papers from participants in the 8th Transnational Dialogues on early childhood education for sustainability research (TND8) held at Mälardalen University in 2023.

Future journal contributions from beyond the immediate university research group are welcomed in Swedish, other Nordic languages or English and can be

emailed directly to the editorial secretary. The journal is published by the research group, Childhood in the Anthropocene – Education and Sustainability at Mälardalen University.

Chief Editor:
Eva Ärlemalm-Hagsér
eva.arlemalm-hagser@mdu.se

Editorial Secretary:
Pernilla Kallberg
pernilla.kallberg@mdu.se

Address:
Mälardalen University
Childhood in the Anthropocene
Research Group
Box 883
721 23 Västerås
Sweden

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What a delight to read these additions to the field of Early Childhood Education for Sustainability (ECEfS) in the first issue of the new journal, *Childhood in the Anthropocene*, established in 2024 by Mälardalen University, Sweden, under the auspices of Chief Editor, Professor Eva Ärlemalm-Hagsér. It is a testament to the growth of ECEfS research that this journal has its debut with these papers that emerged from the latest *Transnational Dialogues in Research in Early Childhood Education for Sustainability* (TND for short).

The first TND network met in 2010 with researchers from Sweden, Norway, Australia and New Zealand. Here, we have papers from Norway, Sweden and Australia, and also from Türkiye, Belgium and Ireland, just a sample of the researcher-participants who attended the 2023 TND in Sweden. This wider group included researchers from Finland, USA, Canada, and the Czech Republic, and we know from previous TNDs – both face to face and online – that international representation continues to expand. It was always the intention of the TND in its initial framing that it would be a network for researchers, would support and encourage research outputs especially from new and emerging researchers,

would draw from interdisciplinary outlooks and lenses, and bring new ideas, language, and nuances to ECEfS.

As I read the ten papers in this issue, it became apparent that they highlight several of the threads that illustrate where the ECEfS movement is currently at – especially those enduring themes that continue to require amplification and strengthening. These include: encouraging nature play to expand to embrace EfS (Ranta, Ireland, through emphasising children’s rights and participation; evolving beyond traditional “green” dimensions in ECEfS (Sageidat, Norway, emphasising synergies between peace education and EfS); and the demand for renovation of early childhood teacher education, preservice and inservice, to account for EfS (Alici, Turkey) and (Jørgensen-Vittersø, Norway).

These papers also provoke: how best to relate sustainability to pedagogical theories and practices (Dom & Willockx, Belgium); how to authentically engage children as the main drivers of learning and actions for sustainability (Engdahl, Sweden); how to overcome bobbing around “amongst the waves of changing political priorities” (Elliott, Australia); making the case for co-creation and innovation in research design when

working with children around sustainability (Eriksen-Ødegaard, Norway); advocating for quantitative studies in ECEfS (Pamuk, Türkiye); and introducing terminology drawn from interdisciplinary explorations (Ärlemalm-Hagsér, Sweden, who references “solidarity” with people and planet). Of course, there is so much more in each of these papers than the fragments I highlight here – now read each in detail for your own learning and motivation!

Overall, these ten papers support the premise that ECEfS is context-driven. There is no one way to implement ECEfS. Everyone is on a journey, and every journey is richly diverse with unique starting points, goals, and outcomes. What is universal, however, is the commitment to young children and the role of early education in shaping and reshaping current lives and future prospects. As we know, today’s children are the inhabitants the future, not us. We owe it to next generations living in the Anthropocene to continue to strive for ways of living that are healthy, just and sustainable for all.

Professor Julie M Davis (Adjunct)
Queensland University of Technology,
Brisbane, Australia

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Introduction

In this first issue of the journal, *Childhood in the Anthropocene*, ten papers from researchers in Early Childhood Education for Sustainability highlight contemporary issues in the field. The papers were contributed by participants in the 8th Transnational Dialogues on early childhood education for sustainability research (TND8) held at Mälardalen University in August 2023. The TND research group was originally established in 2010 by Professor Julie Davis, then at the Queensland University of Technology and Professor Eva Johansson, then at the University of Stavanger, Norway. The aim of the research group is to promote international collaboration in Early Childhood Education for Sustainability (ECEfS), particularly to develop research projects and publications and participate in international conferences. Since 2010, the TND has had a significant role in placing sustainability issues on the research agenda for Early Childhood Education (ECE) and promoting early childhood education within the

Environmental Education (EE) field. For example, ECEfS presentations at international events such as the European Early Childhood Education Research Association (EECERA) conference and the World Environmental Education Congress (WEEC). The TND research network gathers regularly in-person aligned with major conferences and also online. The TND 8 gathering in Sweden brought international researchers together to share their studies on varied topics, thus creating a space for inspiring and constructive dialogues about ECEfS.

The papers in this volume reflect the discussions and thinking shared over two days at the latest TND 8 conference at Mälardalen University focussed around “Where to next? Examining the gaps, issues and needs in Early Childhood Education for Sustainability Research”. The participants rose to this challenge and many have reflected on their research and the TND8 discussions in this collation of papers.

Final program

TND8 Dates: Thursday 24 August, and Friday 25 August.

· Optional Pre and Post TND8 Dates: Wednesday 23 August a preschool study visit in Västerås AND/OR Saturday 26 August a visit to the Valby Open Air Museum in Västerås.

· Co-convenors of TND8: Professor Eva Ärlemalm-Hagsér, Mälardalen University, Professor Barbara M. Sageidet, Stavanger University, Dr Sue Elliott, University of New England, Dr Sule Alici, Kirsehir Ahi Evran University and Dr Lyndal O’Gorman, Queensland University of Technology.

· Venue: Mälardalen University, Västerås, Sweden, <https://www.mdu.se/>

As we gather in person for the first time in five years, it is timely to critically reflect and take stock about where to next in ECEfS research. We first celebrate how TND has been instrumental to the research trajectory of the last decade, building international partnerships and research collaborations with a shared commitment to urgency, agency and equity (Dean & Elliott, 2022; Emery et al, 2017). Shifts have occurred across research and policy alongside theoretical and pedagogical change. In par-

ticular, the ECEfS research trajectory has demonstrated a move away from an environmental focus and more traditional paradigms through to a healthy and diverse body of researchers producing multiple studies that explore broad dimensions of sustainability (Ardoin & Bowers, 2020; Davis, 2009; Hedefalk et al., 2015). In TND 8, we examine what is next for ECEfS, what are the ECEfS research gaps, what methodological directions are possible and what is strategically critical to inform urgent policy and practice change in this arena. Like the patches of a quilt, we ask what research patches are missing now and how can we fill these as we move forward.

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Detailed program – next two pages.

Final program

Venue	Day/Time	Activity
Västerås	Wednesday 23rd August	Optional Morning Preschool study visit to two preschools with an EfS focus in Västerås.
Västerås Campus, Mälardalen University	Thursday 24th August	
	9.30am–11.00am	<p>Welcome and Introductions: TND history overview for newcomers and framing of TND8, program and logistics:</p> <ol style="list-style-type: none"> 1. Official welcome by university hosts 2. Welcome to TND 8 from Eva, Barbara, Sule and Sue and thanks to host, overall goals of TND 8 3. Maps, logistics and program edits and wall paper for ideas sharing over 2 days. 4. Round the room introductions for everyone 5. TND history to date <p>National updates: Participants sharing from the countries represented with questions and discussion.</p>
	11.00am–11.30am	Morning break
	11.30am–12.30pm	<p>Keynote: Joining Children's Perspectives with Transformative Education for Sustainability Guest speakers: Ingrid Pramling-Samuelsson, Gothenburg University and Ingrid Engdahl, Stockholm University.</p>
	12.30pm–1.30pm	Lunch on campus provided
	1.30pm–2.30pm	<p>Research Roundtable 1: ECEfS Reflecting on research shifts and gaps, including pre-recorded interviews with TND co-founder Prof Julie Davis.</p>
	2.30pm–3.00pm	Afternoon break
	3.00pm–5.00pm	<p>Research Roundtable 2: Participants invited to share their current research projects, up to 10 minutes per presentation pending numbers.</p>
	6.00pm	Dinner: Pre-booked dinner at a nearby restaurant.

Final program

Venue	Day/Time	Activity
Eskilstuna Campus, Mälardalen University 8.30am Bus to Eskilstuna campus	Friday 25th August	
	9.30am–10.15am	Panel discussion: International perspectives on inservice and preservice teacher training research – led by Deb Harwood, Ann-Christin Furu and Sule Alici.
	10.15am–10.45am	Morning break
	10.45am–11.30am	Group discussion: Theorising and researching pedagogical principles for sustainable futures – led by Elin Eriksen Ødegaard and Sue Elliott.
	11.30am–12.30pm	TND Projects: Self-selected collaborative research interest group discussions, including a possible TND publication/outcome focus.
ReTuna Recycling Mall 12.30pm Bus to Mall 2.30pm Bus back to Eskilstuna campus	12.30pm–3.00pm	Visit: ReTuna Recycling all for lunch and study tour.
Eskilstuna Campus, Mälardalen University	3.00pm–5.00pm	Public Symposium: ECEfS Research and practice symposium for Mälardalen University academics, local practitioners and students.
	5.30pm–6.30pm	TND 8 Concluding discussions: Where to from here? Topical issues? Challenges? Tensions? Initiatives? Actions?
6.30pm bus from Eskilstuna campus back to Västerås Campus	7.00pm–9.30pm	Dinner (Optional) in Västerås
Valby Open Air Musum, Västerås	Saturday 26th August 10.00am–12 noon	Visit: Optional Valby Open Air Museum visit and lunch on site possible. Some TND8 participants will be travelling on to Lisbon, see you at EECERA!

BIO

Dr. Alici was awarded her PhD in education for sustainability in early childhood education at Middle East Technical University in September 2018. She is currently an assistant professor in the Elementary and Early Childhood Education Department at Kirsehir Ahi Evran University in Türkiye. Her research areas include Education for Sustainability, Critical/Media Literacy and Creative Drama in ECE, and Teacher Education in Education for Sustainability. In addition, she has been one of the co-convenors of the EECERA Sustainability Special Interest Group and the Transnational Dialogues in Education for sustainability research since 2020.

What EfS says about early childhood teacher's education: The Turkish Context

In this article, I explore the TND's recent history, group members' works and projects, and how these endeavors have addressed the need for ECEfS and shed light on the way forward for emerging researchers and practitioners. I also reflect on how this work has influenced the Turkish context, such as the ECE curriculum and teacher education.

From September 2017 – my first TND attendance in Canada – to now, the TND group members as ECEfS researchers have made many attempts to enlarge the impact of this group's synergies, perspectives, pedagogies, projects, and collaborations across different countries. Three notable edited books and three journal special issues actualize these attempts.

- Ferreira et al. (2019) focusing on embedding sustainability in teacher education courses and their institutions.
- Elliott, Ärlemalm-Hagsér and Davis (2020) encompassing different worldviews and cultural influences, national education policies, teacher

education changes, plus initiatives in ECEfS curriculum and pedagogy.

- Davis and Elliott (2024) giving importance to new pedagogical approaches, cultural impetus for effective ECEfS practice, the intersections between digital technologies and STEAM and worldwide ECEfS implementation updates.
- Carr, Elliott and Ärlemalm-Hagsér (2021) covering different research projects and practices around the UNESCO Sustainable Development Goals (SDGs) and early childhood environmental education reflecting change in SDG awareness and understandings about how to adapt the SDGs into practice and educator pedagogical transformation.
- Evans et al. (2022) focusing internationally on early childhood initial teacher education in ECEfS; and,
- Karrow, Evans and Harwood (2022) targeting environmental and sustainability education within the teacher education field.

Moreover, previous TND participants

established the EECERA Sustainability SIG in 2019. Many self-organised symposia were offered at the annual EECERA conferences, including different perspectives and research projects from various countries. Besides academic research studies, some countries (such as Australia) have reported ECE curriculum updates to be more sustainability integrated.

In light of these international ECEfS developments, when I analysed the policy, practice, and academic studies in Türkiye some local shifts were evident. For example, the revision of the ECE curriculum to explicitly support EfS has nearly been completed. Looking further back, in 2018 the pre-service teacher education program was renewed by adding compulsory and elective courses to support sustainability. Moreover, there has been an increase in academic studies on both in-service (e.g., Alici & Sahin, 2023) and pre-service teacher education (e.g., Akyol, Pamuk & Elmas, 2018; Karaarslan Semiz & Temiz, 2021; Alici & Alan, 2022). Despite this acceleration, we still need to renovate teacher education and teacher qualities to support practices that more effectively target the SDGs and the political, economic, social, cultural, and natural dimensions

of sustainability. A 2017 analysis of the Competencies of the Teaching Profession (MoNE, 2017) indicated that the social and cultural dimensions were placed under the teacher's attitudes and values domain; however, no explanation was offered about the other sustainability dimensions or EfS under subject matter knowledge and pedagogical content knowledge (Alici, 2020).

More broadly, after Türkiye approved to enter into the Paris Climate Agreement in 2021 the Turkish Ministry of Environment and Urbanization was renamed the Ministry of Environment, Urbanization and Climate Change. Based on the recent United Nations climate change conferences, in 2021, the climate change directorate was established, and in 2022, the Climate Council was formed. However, when the 2011–2023 action plan originally declared by the Ministry of Environment and Urbanization regarding sustainability policy is examined, the plan mostly centres on economic and environmental sustainability issues, such as energy transportation and zero waste. Furthermore, the only adaptation strategy for the 2011–2023 Action Plan on Climate Change was focused on “organizing training, awareness-raising, and informative activities to develop the

capacity to combat and adapt to climate change” (Ministry of Environment & Urbanisation, 2012, p. 140). Although without educational strategies and practices, action plans cannot be recognised by the public, and there is no detailed explanation of how this adaption can be implemented. Therefore, the next steps for Türkiye are that the action plan should be revised to encompass educational strategies and more collaboration with the Ministry of National Education and representatives from all educational sectors, from early childhood to higher education.

Further, as mentioned above, sustainability has political, economic, social, cultural and natural dimensions (UNESCO, 2010; 2021). Based on this multidimensionality, ECEfS requires more interdisciplinary and multidisciplinary approaches and studies from the perspectives of the Mainstreaming Change Model proposed by Ferreira and Ryan (2012). Based on this model, if a change has occurred in one system/sub-system/hub, this provokes transformation in another system/sub-system/hub. In Türkiye, I argue the change starts with the ECE curriculum and I propose this will trigger transformations in teacher education and teacher competencies.

Lastly, my colleague and I instigated a series of historical studies focused on the previous Turkish teacher education program – Village Institutes – since this program was derived from the Turkish people’s local needs. According to our preliminary findings, this program supports today’s UNESCO SDGs. Therefore, we will further examine this program in terms of the SDGs, higher education functions, and global citizenship education. Our first analysis indicated that the Village Institutes program accorded significant importance to learner-centered approaches, active participation, placed-based learning, participatory learning, empowerment, transformative learning, and active citizenship. We anticipate discovering other powerful program aspects and adopting these within our current teacher education programs and teacher competencies.

Overall, although each country has its own dynamics, we live in a global village; thus, the change in one country can initiate change in another country, like the Mainstreaming Change Model (Ferreira & Ryan, 2012). I argue for longitudinal and comparative studies between countries to inspire each country to explore appropriate teacher education programs that actualize the SDGs. While

constructing these studies, researchers should not forget the multi-dimensionality of sustainability. In other words, we need more interdisciplinary and multidisciplinary research studies, so we can present good research and practice examples to build a more robust ECEfS field instead of a “patchwork quilt” (Elliott, 2006, p. 1).

REFERENCES

- Akyol, T., Pamuk, D., & Elmas, R. (2018). Drama in education for sustainable development: Preservice preschool teachers on stage. *Journal of Education and Learning*, 7(5), 102–115.
- Alici, Ş. (2020). The place of ECEfS in the Turkish teacher education system. In S. Elliott, E. Årlemalm-Hagsér, & J. Davis (Eds.), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. 192–204). Routledge.
- Alici, S., & Alan, H. A. (2022). Implementation of education for sustainability in Turkish pre-service teachers’ practicum. *Brock Education Journal*, 31(2), 17–39.
- Alici, Ş., & Şahin, V. (2023). Fostering Turkish early childhood teachers’ professional growth about education for sustainability through media literacy. *Education and Science*, 48 (213), 143–168.
- Carr, V., Elliott, S., & Årlemalm-Hagsér, E. (2021). Special issue editorial note-Rethinking play in nature: Embracing early childhood education for sustainability. *International Journal of Early Childhood Environmental Education*, 9 (1), 5–10.
- Davis, J. & Elliott, S. (Eds.)(2024). *Young children and the environment (3rd ed.)*. Cambridge University Press.
- Elliott, S. (2006). Beyond patches of green: A turning point in early childhood environmental education. Paper presented at the biennial conference of the NZ Association of Environmental Education, January

22–26, Auckland, New Zealand.

- Elliott, S., Årlemalm-Hagsér, E., & Davis, J. (Eds.). (2020). *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies*. Routledge.
- Evans, N., Harwood, D., Furu, A., & Alici, Ş. (2022). Challenges in reorienting early childhood education for sustainability in initial teacher education: Transforming, creating and expanding. *Australian Journal of Teacher Education*, 47(5), 1–14. <https://ro.ecu.edu.au/ajte/vol47/iss5/1/>
- Ferreira, J., Evans, N., Davis, J., & Stevenson, R. (2019). *Learning to embed sustainability in teacher education*. Springer briefs in Education, Springer.
- Karaarslan Semiz, G., & Temiz, Z. (2021). Turkish pre-service early childhood education teachers’ perceptions and practices of nature-based teaching on professional experience. *Australian Journal of Environmental Education*, 37(3), 187–207. <https://doi.org/10.1017/ae.2021.6>
- Karrow, D. D., Evans, N., & Harwood, D. (2022). Guest editorial from the margins to the mainstream: Canadian and international teacher ESE. *Brock Education Journal*, 31(2), 4–16.
- Ministry of Environment and Urbanization (2012). *Republic of Türkiye climate change action plan 2011–2023*. Ministry of Environment and Urbanization.
- Ministry of National Education (MoNE) (2017). *Öğretmenlik Mesleği Genel Yeterlilikleri [General Competencies of Teacher Proficiencies]*. Devlet Kitapları.
- UNESCO (2010). *Four dimensions of sustainable development*.
- UNESCO (2021). *Sustainable Development*. Sustainable Development (unesco.org)

Where to go next? Getting leaders and practitioners in daycare centres on board in the shift to sustainable childcare by connecting sustainability with existing pedagogical frameworks and theories

BIOS

Leen Dom and Dietlinde Willockx both work at the Pedagogy in Practice research centre of the KdG University College of Applied Sciences and Arts in Antwerp, Belgium. Dietlinde is the head of the research center, and Leen is a senior researcher. Their work in the research center revolves around practice-based research that aims to understand and strengthen pedagogical practices. One of the research themes they have worked on together is sustainability.

During the TND8 discussions, bringing about sustainable changes in thoughts and practices among practitioners and leaders of daycare centres (B-3 years) was identified as one of the potential pathways for further research. In this reflection paper, we introduce a new approach to promoting sustainable changes in the thoughts and practices of daycare centre practitioners and leaders. We highlight the challenge of making real changes in the sustainability practices of daycare practitioners. Rather than introducing new pedagogical approaches or ruptures with the common practice, we propose the identification of sustainable anchor points within existing frameworks and utilizing these as influential narratives. In this paper, we delve deeper into this avenue.

During TND8, we presented an action research study during which we investigated together with two teams of practitioners how sustainability could be integrated into their pedagogical and

organizational approach (Willockx & Dom, 2022). We were honest about the final project results that somewhat disappointed us, as we had failed to make practitioners sustainably change their actions. The audience reactions to the presentation were confrontational: “What did you expect to achieve in two years? Change takes time.” and “You have to get it into people’s hearts.” These reactions, as well as the discussions that took place over the three days, made us reflect on where and why it goes wrong in sustainably transforming thinking and acting in daycare centres, and where possible solutions might lie. Our critical reflection starts with questioning whether “How do you ensure that sustainability becomes something that is in the practitioners’ hearts?” is the right thing to investigate. Does sustainability have to be in practitioners’ hearts to become embedded in their practice? And, critically does the world have enough time for this?

It is not surprising that early childhood

practitioners find it difficult to embrace sustainability thinking. Early childhood professionals are often at the bottom of the social ladder, working in a crisis-ridden sector with staff shortages, a high workload and often strict rules with limited professional autonomy. We observed resistance to sustainability thinking, both in the practical sphere because of the workload and, more often, in the personal sphere. During our research, power relations were questioned: “Is it up to us to change the world?” and “Isn’t that the responsibility of the powerful?”

Understanding how change works is essential to finding successful solutions on how to help practitioners past resistance. We propose to use the structuration theory by Giddens (1984; 1991). According to Giddens, there is no dualism between agency and structure, but rather a duality. Social practices connect structure and agency, as actors produce and reproduce structures and systems through their everyday actions. Giddens also described the actors themselves as dual, with both a discursive and a practical consciousness. The former refers to actors’ ability to explain the reasons for their actions, while the latter refers to the knowledge that enables them to socially interact, but which they cannot

necessarily articulate.

Giddens’s types of consciousness are reflected in the two types of theories Friedman and Rogers (2009), following Argyris and Schön (1974), use for analysing action research: espoused theories and theories-in-use. Espoused theories are what actors say or think they do and describe or justify behaviour. Theories-in-use represent a tacit knowledge that actors are generally unaware of and which they employ almost automatically. To achieve sustainable change, a transformation in both the practical and discursive consciousness of actors is necessary. Not just their theories-in-use, but also their espoused theories need changing. Only then can systems evolve with them.

During our project, we tried to introduce the UNESCO Sustainable Development Goals (SDGs) framework as a form of espoused theory and look for ways to relate it to daily practices in childcare provision. Our goal was to reach not only the discursive consciousness of practitioners, but after a while also their practical consciousness, which would allow them to change the system in which they operated. However, the practitioners positioned sustainability in the political sphere, well outside their

practical and personal spheres (O’Brien & Signa, 2013).

To move on, we hypothesise that to bring about sustainable changes in childcare, we should relate sustainability to the core aspects of childcare provisions: the pedagogical practice. After all, pedagogical practice is where both practitioners’ espoused theories and their theories-in-use are strongly connected. As most childcare provisions base their work on pedagogical theories or views, we propose to investigate in what ways existing pedagogical theories such as Reggio Emilia, Freinet, Montessori and experiential learning relate to sustainability theories. So, rather than creating a new signature pedagogy (Ødegaard, 2021) we propose to explore how to connect existing frameworks and theories with sustainability and thus, work towards an engaging narrative, which relates to the espoused theories and the theories-in-use already evident.

We propose a four-step study. Firstly, identify anchor points within existing pedagogical frameworks that relate to sustainability theories and formulate them into an espoused theory. Secondly, relate these anchor points to the theories-in-use in childcare practices and thirdly, talk to groups of practitioners

about these connections with pedagogical theories and the daily practices based on them. In a fourth step, we would advocate for explicitly adding the connecting elements in pedagogical policy frameworks.

Looking back to our work, and also to the conference, we need to change our approach as action researchers. Currently, we are too focused on our frame of reference, which may differ significantly from that of child practitioners, and this may be why they are not so engaged. For example, when we try to involve them in sustainability through nature experiences not all of them may have relevant experiences to relate back to. If we only focus on practitioners who already resonate with sustainability, we are limiting ourselves and moving too slowly. Therefore, we propose to replace the question “How do we get it into the hearts of the professionals?” by the question “How do we relate sustainability to existing pedagogical theories?” By linking sustainability to existing pedagogical frameworks and advocating for sustainable policy frameworks, we can find a faster and more accessible path to change.

REFERENCES

- Argyris, C., & Schön, D. A. (1974). *Theory in practice: Increasing professional effectiveness*. Jossey-Bass.
- Giddens, A. (1984). *The constitution of society*. Polity Press.
- Giddens, A. (1991). Structuration theory: Past, present and future. In C. Bryant & D. Jary (Eds.) *Theory of structuration. A critical appreciation* (pp. 201–221). Routledge.
- Friedman, V. J., & Rogers, T. (2009). “There Is Nothing so Theoretical as Good Action Research.” *Action Research*, 7(1), 31–47.
<https://doi.org/10.1177/1476750308099596>
- O’Brien, K. & Sygna, L. (2013). “Responding to climate change: the three spheres of transformation”, *Proceedings of Transformation in a Changing Climate*, Oslo, Norway.
- Ødegaard, E. E. (2021). Reimagining “Collaborative Exploration” – A signature pedagogy for sustainability in early childhood education and care. *Sustainability*, 13, 5139. <https://doi.org/10.3390/su13095139>
- Willockx, D. & Dom, L. (2022) Childcare 2030: On using SDG’s as a framework for implementing sustainability in two day-care centres in Flanders. *International Journal of Early Childhood*, 54, 75–91.
<https://doi.org/10.1007/s13158-022-00316-z>

Where to next? Recognising the role of Early Childhood Education for a sustainable future

BIO

Associate Professor Ingrid Engdahl is a preschool teacher and psychologist, with a PhD in Child and Youth Sciences from Stockholm University, Sweden, now a senior researcher. Her research area is preschool and includes toddlers, play, friendship, children's rights, and education for sustainable development. Her ongoing research concerns the Ifous program *Sustainable Preschool*, and the development of an on-line course *Sustainability from the Start*, reachable in the app ECE Academy. Ingrid is active within OMEP, the World Organisation for Early Childhood Education, in Sweden and internationally, focusing on human rights and education for children from birth to 8 years.

In the early childhood period, children develop their basic values, attitudes, skills, behaviours and habits, which may be long lasting. Early Childhood Education for Sustainability (ECEfS) is about understanding how different choices people make in everyday life can contribute to sustainable development. Many teachers give priority to ECEfS, but we need all teachers to address ECEfS, framed by a view of each child as participating in society towards a sustainable world. Together, we must all address the most urgent challenge of our time: Transformation at all levels towards sustainability.

During the OMEP project on education for sustainable development (ESD) (Engdahl, 2015; OMEP, 2023), it became clear to me that children and adults have different knowledges, which sometimes lead to different priorities. For instance, when discussing growing food, the grandparents named vegetables, while the children named flowers and fruit. The grandparents valued knowing how to grow things you can eat, whereas

the children, who sometimes think food just comes from the supermarket, preferred flowers and some fruits. The different preferences, vegetables or flowers, I argue are linked to values related to sustainability.

Another important result, from my 15 years leading OMEP ESD projects, is the number of ideas that the children offered, which were frequently carried through into local projects directly reflecting the children's lives (Engdahl, 2015). The political ambition in EFS is about empowerment and transactive and transformative change (UNESCO, 2020). Through these projects, I have seen that young children do have the competencies to participate actively – if they are given the possibility. There are many reasons for prioritising children's participation, starting with the UN Convention on the Rights of the Child (UNCRC) (UN, 1989), where the child's right to participation is stated as a non-conditional human right. Additionally, children's participation and a play-responsive pedagogy will enhance children's meaning-making and learning (Pramling et al., 2019).

Play is an important aspect of children's perspectives that enables a sharing of their worlds. Finally, children's participation means recognising that children contribute with other knowledges and perspectives to the contextual realities and issues at hand.

During the ESD projects, many teachers became aware of the empowering effects of a child-oriented pedagogical approach. Agency is often highlighted together with child participation, and I stress that agency is not only the possibility for children to be active. Agency, as a theoretical concept, is being able to distance oneself and implement an acknowledgement of possibilities to intervene, and have space for acting. Therefore, a whole school approach to ECEfS must include the children, promoting their interests and ideas to achieve inter-subjectivity, finding the 'tricky' balance between the children's and the teachers' initiatives, and empowering children through authentic and contextual activities. If we plan for such an approach, my experience is that the children often are the drivers of the projects and actions for sustainability.

In the Ifous research program, entitled Sustainable Preschool, the 200 participating Swedish preschool teachers reported

that recycling was the most mentioned content (Ärlemalm-Hagsér, Engdahl, & Pramling Samuelsson, 2023). Recycling can start from the youngest age, with learning the waste symbols and where to put waste, but for the older preschoolers, in some preschools this subject was developed into themes including financial aspects as well as changing lifestyles. Other commonly reported areas were plant cultivation in various ways as well as questions about animals and nature. Children must process that we are dependent on the nature around us and that the diversity of plants and animals are important for the future of life on Earth. It is about weaving in the rapidly changing living conditions for all living things, thus expanding from questions of biology to ecology (Pramling Samuelsson, Engdahl & Ärlemalm-Hagsér, 2024).

Many preschool teachers in the program also linked their work with the UNCRC (UN, 1989) to ESD. Teachers' collaborating with others and reaching outside one's own preschool became a way of giving a voice, space and influence on preschool children's thoughts and suggestions in broader society.

However, reorienting to ECEfS demands professional and skilled teachers

and educators. There is no more urgent topic for in-service and pre-service education than ESD (Engdahl & Furu, 2022). Within an Erasmus project, I had the pleasure to develop a free online course specifically for Early Childhood Educators in Early Childhood Education for Sustainable Development, *Sustainability from the Start* (edChild et al., 2023). It was a collaborative effort between Kristianstad University in Sweden, the organisation edChild and OMEP across Croatia, the Czech Republic, France, Ireland and Sweden. The course is available in the app ECE Academy and offered in multiple languages. Another tool for reorienting towards high quality ECEfS is the OMEP ESD Rating Scale (OMEP, 2019). This scale offers teachers a broader understanding of the concept sustainable development, promotes a joint professional language and may enable assessment of which content areas are included or still to be included in the early childhood education (ECE) program and setting.

One necessary professional skill for teachers is the capacity to communicate in a way that children readily express their ideas and share focus, level and content with the teacher (Engdahl et al., 2023). The teachers' skills in sharing at-

tention with the children are necessary to achieve a common sustainability focus. Children's voices are to be respected and treated as important, especially in the ECE institutions created for them, but also in society generally around the intergenerational dialogue on issues of intergenerational importance. The UN-CRC (UN, 1989) empowers the right for these voices, albeit coming from a social group that is not yet allowed to vote.

Our generation is probably one of the last that based on the complexity of the situation can and must take responsibility to accomplish the challenging changes. It is of highest importance to strengthen a sustainable and just road, in the best interests of the children, for humankind, and for the planet.

(Višnjić-Jevtić et al., 2021, p. 267).

Lastly, I am convinced that many teachers share my dedication to children par-

ticipating in society towards a sustainable world. Together, we must all address the most urgent challenge of our time: Transformation at all levels towards sustainability. ECE settings can decisively contribute to how societies achieve the SDGs (UN, 2015). This transformative process must be based on children's participation. Today's children – not us – will live through most of the 21st century.

REFERENCES

- Ärlemalm-Hagsér, E., Engdahl, I., & Pramling Samuelsson, I. (2023). Förskollärares mång-fasetterade motiv för undervisning om hållbarhet. *Nordisk barneha-geforskning*, 19 (3), 104–124. <https://doi.org/10.23865/nbf.v19.345>
- edChild, OMEP in Croatia, Czech Republic, France, Ireland, Sweden, & Kristianstad University. (2023). *Sustainability from the start (ECE Academy)*. OER Commons. Retrieved November 28, 2023, from <https://www.edchild.com>
- Engdahl, I. (2015). Early childhood education for sustainability: The OMEP world project. *International Journal of Early Childhood*, 47, 347–366. <https://doi.org/10.1007/s13158-015-0149-6>
- Engdahl, I. (2019). The UN convention on the rights of the child has become policy in many countries. *International Journal of Early Childhood*, 51, 259–264. <https://doi.org/10.1007/s13158-019-00257-0>
- Engdahl, I., & Furu, A-C. (2022). Early childhood education: A vibrant arena in the complex transformation of society towards sustainability. *International Journal of Early Childhood*, 54. <https://doi.org/10.1007/s13158-022-00323-0>
- Engdahl, I., Pramling Samuelsson I., & Ärlemalm-Hagsér, E. (2023). Systematic child talks in early childhood education: A method for sustainability. *Children*, 10 (4), 661. <https://doi.org/10.3390/children10040661>
- Engdahl, I., Pramling Samuelsson, I., Ärlemalm-Hagsér, E. (2021). Swedish teachers in the process of implementing education for sustainability in early childhood education. *New Ideas in Child and Educational Psychology*, 1 (1), 3–23. <https://doi:10.11621/nicep.2021.0301>
- OMEP. (2019). *The OMEP ESD Rating Scale*. <https://omepworld.org/education-3/>
- OMEP. (2023). *Early childhood education for a sustainable world*. (OMEP world projects for sustainability 2009–2023). https://omepworld.org/wp-content/uploads/2023/11/ESD_Pamphlet.pdf
- Pramling, N., Wallerstedt, C., Lagerlöf, P., Björklund, C., Kultti, A., Palmér, H., Magnusson, M., Thulin, S., Jonsson, A., & Samuelsson, I. P. (2019). *Play-responsive teaching in early childhood education*. Springer. <https://link.springer.com/book/10.1007/978-3-030-15958-0>
- Pramling Samuelsson, I., Engdahl, I., & Ärlemalm-Hagsér, E. (2024). Doing systematic child talks: A contribution to sustainability in preschools. *Educare*. 2, 84–106.
- United Nations [UN]. (1989). *Convention on the rights of the child*. UN General Assembly. <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>
- United Nations [UN]. (2015). *Transforming our world: The 2030 agenda for sustainable development*. UN General Assembly. <https://sustainabledevelopment.un.org/post2015/transformingourworld>

Global and local intersects – ECEfS in Australia

BIO

Sue Elliott is an Adjunct Senior Lecturer in Early Childhood Education at the University of New England (UNE), New South Wales, Armidale and a visiting scholar at the University of Cincinnati, Ohio, USA. Sue is a long-term early childhood education for sustainability advocate, researcher and author. She co-convenes the TransNational Dialogues in Early Childhood Education for Sustainability research group and the European Early Childhood Research Association Sustainability SIG. She was lead editor for the publication *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (Elliott et al., 2020) and co-authored *Early Childhood Australia Essentials: Sustainability in early childhood* (Elliott & Davis, 2023). Sue was awarded the 2023 Fellowship of the Australian Association for Environmental Education to recognise her decades of advocacy work promoting sustainable futures for young children across the early childhood education sector.

In this paper, I reflect on local and global intersects with implications for early childhood education for sustainability (ECEfS) in Australia. At the TND8 public lecture, I shared our excitement in Australia about a new sustainability principle in the recently updated Early Years Learning Framework (AGDE, 2022). We join a handful of countries globally that now explicitly include sustainability in their early childhood curricula, however we must ask what next to drive ECEfS implementation across the Australian early childhood education field. We do this in the somewhat unique context of Australia being highly prone to climate change events, but also a so-called “lifeboat” island nation in the face of climate change. A somewhat perplexing context for us all that has implications for urgent ECEfS implementation.

A NEW PRINCIPLE

The recently updated *Belonging, being and becoming: Early years learning framework for Australia* (AGDE, 2022) incorporates a new sustainability principle. This has been a pivotal milestone in Australia after several decades of advocacy

by local professional networks and the long-standing international contributions of Australian researchers (Elliott, Årlemalm-Hagsér & Davis, 2020; Davis, 2009; Dymont et al., 2014; Emery et al., 2017; O’Gorman, 2017). Particularly when one considers barely a decade ago a shortsighted Australian Productivity Commission Review (2014) removed a sustainability standard from the National Quality Standard (ACECQA, 2013) based on arguments it was too subjective, not integral to the quality of EC services and not being well addressed by EC services anyway. We seem to bob about forever among the waves of changing political priorities in both early childhood education and sustainability.

The updated framework acknowledges the challenges facing “humanity and the planet we share with all living things” and identifies educators and children as having “important and active roles to play in creating and promoting sustainable communities” (AGDE, 2022, p. 17). These sentiments are supported by a multi-dimensional definition of sustainability comprising intertwined environmental, social, and economic dimensions. Somewhat predictably, the

framework fell short of recognising a political dimension (UNESCO, 2010); however, it does cite “children’s agency and their right to be active participants in all matters affecting their lives” (AGDE, 2022, p. 18).

One notable challenge for implementation is the limited elaboration of the sustainability principle across the five learning outcomes. A broader coverage beyond the readily identifiable “Learning Outcome 2: Children are connected with and contribute to their world” (AGDE, 2022, p. 38) is required to embed whole service approaches to sustainability as long advocated (Davis, 2015). In addition, previous Australian research has identified early childhood educator limitations around sustainability content knowledge and pedagogical approaches (Dyment et al., 2014; Elliott et al., 2016); hence, guidance is essential for effective implementation. Amidst these challenges, I now turn to the global intersect that compels us to act swiftly to ensure all educators are well equipped.

GLOBAL INTERSECTS

Several global scientific authorities have declared 2023 was the globally hottest year (NOAA, 2024). Specifically, Australia’s State of the Environment Report

(Metcalf & Costello, 2021) reminds us that “Climate change and its impacts, in terms of changes in the frequency, intensity and distribution of extreme events, are key pressures on the persistence of Australian environments as we know them, with knock-on effects on society” (p. 8). The report elaborates that extreme climate events including wildfire, drought, floods and heat waves are most often increasing in frequency across Australia’s sparsely populated island nation. Personally, I cannot escape the daily shifting media reports about fires to the west and floods to the north; yet, well recognize the global injustices of being somewhat comfortably located in a Western nation supposedly well-resourced to deal with these calamities. I also recognise those Australians speaking from raw and personal experiences would not necessarily agree.

The observed impacts of such events on young children have come to the fore in Australia; for example, a paediatrician described treating children for cuts or infections acquired during flood rescues, but also the need for medication to reduce post-trauma anxiety (Naylor, 2022). One child-focused initiative on offer is Birdie’s Tree (Queensland Centre for Perinatal and Infant Mental

Health [QCPIMH], 2018), a suite of resources to support the mental health and emotional wellbeing for families, specifically during natural disasters. The realities of this situation reinforce the global calls to both recognize and address the links between climate change, children’s rights and children’s current and future wellbeing (Clark et al., 2020; UNICEF, 2021).

A final global intersect is the notion of Australia being a contemporary “lifeboat” nation in terms of preparedness and the capacity for resilience in the face of climate change. King and Jones (2021) examined this notion in detail and offer an alternative term “nodes of persisting complexity”.

These are defined as nations with ‘favourable starting conditions’ that may allow them to retain localised, higher levels of societal, technological and organisational complexity for promoting resilience and system change. They offer a global shortlist comprising Australia, Ireland, New Zealand, Iceland and the UK, thus predominantly temperate developed island nations with lower population densities.

These three global intersects create a somewhat perplexing context for all engaged in the implementation of our new

Australian sustainability principle. Not only do we deal with the physical realities of frequent climate change events for families and children, we must ameliorate any longer-term health and well-being impacts, and at the same time, instil preparedness and capacities for new and different ways of being in 'nodes of persisting complexity'.

IMPLEMENTATION

With the above considerations in mind, I share some pragmatic thoughts on driving ECEfS implementation. Significantly, no funded resources are currently available from relevant government departments or authorities, yet the new sustainability principle is mandated from 2024 onwards and subject to on-site quality assurance assessment. I argue it is simply not enough to offer a new principle and expect informed educator uptake. Here I offer a checklist of possibilities and examples, only some are underway in Australia to date.

- Regulatory and quality assurance bodies promote understandings about ECEfS and priorities in the field, <https://www.acecqa.gov.au/latest-news/blog?f%5Bo%5D=categories%3A1666>

- Professional standards and codes of conduct reflect an ethic of sustainability,
- Early childhood education stakeholders, such as management bodies and professional associations, demonstrate leadership through sustainability position statements and policies,
- In-service professional learning offers varied accessible platforms, such as on-site mentors, webinars and learning circles (Elliott et al., 2016),
- Designated centre-based sustainability champions are leaders in their communities supported by networks and mentors.
- Pre-service teacher education courses consistently include sustainability studies (Davis & Davis, 2020; Evans et al., 2022).
- A national ECEfS online repository offers a recognized and relevant source for educators, <https://tewhariki.tki.org.nz/en/teaching-strategies-and-resources/contribution/education-for-a-climate-changing-future/>
- Research and practice informed publications support educators (Davis & Elliott, 2024)
- Sustainable building design and retrofitting exemplifies leading sustainable service infrastructure and offers lear-

ning opportunities.

- Research initiatives around implementation of the new sustainability principle and beyond promote evidence-based practice and deeper understandings.

CONCLUSION

Therefore, although we share much excitement about the new principle, the compelling global and local intersects and long checklist of pragmatic possibilities is perhaps overwhelming. Perhaps there are relatable possibilities here for other nations. Personally, at my late career stage, I leave this to others to grasp the ECEfS baton and run swiftly to facilitate young children as key players in creating global "nodes of persisting complexity".

REFERENCES

- Australian Children’s Education and Care Quality Authority (ACECQA) (2013) *Guide to the National Standard*. ACECQA.
- Australian Productivity Commission (2014). *Childcare and early childhood learning. Inquiry Report No. 73*. Australian Productivity Commission.
- AGDE (2022). *Belonging, being and becoming: Early years learning framework for Australia, V 2.0*. Australian Government Department of Education for the Ministerial Council.
- Clark, H. et al., (2020). A future for the world’s children? A WHO–UNICEF–Lancet Commission. *The Lancet Commissions*, 395(10224) 605–658. [https://doi.org/10.1016/S0140-6736\(19\)32540-1](https://doi.org/10.1016/S0140-6736(19)32540-1)
- Davis, J. (2009). Revealing the research ‘hole’ of early childhood education for sustainability: A preliminary survey of the literature. *Environmental Education Research*, 15(2), 227–241. <https://doi.org/10.1080/13504620802710607>
- 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. Årlemalm-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. (2024). *Young children and the environment: Early education for sustainability* (3rd edn.). Cambridge University Press.
- Dymont, J. E. et al., (2014). The impact of professional development on early childhood educators’ confidence, understanding and knowledge of education for sustainability. *Environmental Education Research*, 20(5), 660–679. <https://doi.org/10.1080/13504622.2013.833591>
- Elliott, S., Årlemalm-Hagsér, E. & Davis, J. (Eds.) (2020). *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies*. Routledge.
- 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*. State of NSW & Office of Environment and Heritage.
- Emery, S., et al., (2017). Transnational Dialogues for sustainability research in early childhood education: A model for building capacity for ESD in universities? In W. Leal Filho, L. Brandli, P. Castro, & J. Newman (Eds.), *Handbook of theory and practice of sustainable development in higher education* (pp. 143–156). World Sustainability Series, Springer. https://doi.org/10.1007/978-3-319-47889-0_11
- Evans, N. et al., (2022). Challenges in reorienting early childhood education for sustainability in initial teacher education: Transforming, creating and expanding. *The Australian Journal of Teacher Education*, 47(5), <https://doi.org/10.14221/ajte.2022v47n5.1>
- King, N. & Jones, A. (2021). An analysis of the potential for the formation of ‘Nodes of Persisting Complexity’. *Sustainability*, 13, 8161. <https://doi.org/10.3390/su13158161>
- Metcalfe, D. J. & Costello, O. (2021). *Australia state of the environment 2021: Extreme events, independent report to the Australian Government Minister for the Environment*. Commonwealth of Australia. <https://soe.dcceew.gov.au/>
- NOAA (2024). 2023 was the world’s warmest year on record, by far. <https://www.noaa.gov/news/2023-was-worlds-warmest-year-on-record-by-far>
- Naylor, C. (28 October, 2022). “It will rain now and we will have little people in tears”: Hope amid fear for Lismore’s children. *Sydney Morning Herald*. <https://www.smh.com.au/national/nsw/the-kids-just-remember-the-rain-hope-amid-fear-for-lismore-s-little-people-20221028-p5btpt.html>
- O’Gorman, L. (2017). Sustainability, the arts and big numbers: The challenge of researching children’s responses to Chris Jordan’s images. *International Journal of Early Childhood*, 49(3), 321–332.
- QCPIMH (2018). Birdie’s Tree. <https://www.childrens.health.qld.gov.au/natural-disaster-recovery/>
- UNESCO (2010). *Four dimensions of sustainable development*.
- UNICEF (2021). *The climate crisis is a child right crisis*. UNICEF.

Co-creation for the wise and urgent decisions in the best interest of child and planet

BIO

Professor Elin Eriksen Ødegaard is the Director of the Kindergarten Knowledge Centre for Systemic Research on Diversity and Sustainable Futures [KINDknow] [BARNkunne – Senter for barnehageforskning], at Western Norway University. Here she is also head of the Research School NORCHILD [NORBARN], a unique research school for early childhood education and transferable skills. She has from early years, been an advocate for environmental protection and later for education for sustainable futures. Her areas of expertise are children's meaning-making, their play, exploration, formative development and interdisciplinary designs on collaboration and co-creation with children, families, staff, local and national authorities and organisations.

It is crucial for children, that the adult communities, from families, to local, national and international authorities and organisations, take intergenerational responsibility with the necessary actions of humanity and care for children and the planet. Today we have accumulated knowledge of child development and needs, and we have evidence-based knowledge of the climate state and the needs of the planet's lands, oceans, and life organisms. This means that we already have a grounded knowledge base for taking wise actions and steps for developing hope for the next generation. But sadly history has shown that these areas of research are often ignored or lose the research game of funding and seriousness on behalf of research that creates economic growth, speed, and effective societies. Children's lives are often neglected in world agendas and societies and the planet loses when measures of economic growth rule the world. These words come from Charlie Chaplin in his classic speech in the film *The Dictator* from 1940.

Greed has poisoned men's souls, has barricaded the world with hate, has goose-stepped us into misery and bloodshed. We have developed speed, but we have shut ourselves in. Machinery that gives abundance has left us in want. Our knowledge has made us cynical. Our cleverness, hard and unkind. We think too much and feel too little. More than machinery, we need humanity. More than cleverness, we need kindness and gentleness. Without these qualities, life will be violent, and all will be lost ...

At the beginning of World War II, he appealed very strongly to man's humanity and warned us all of "machine thinking". This speech can remind us of that cleverness alone, artificial intelligence alone, is not the ultimate goal of education. Without a negotiated value-based curriculum, where kindness, gentleness and action for the protection of children and planet are central, education can fail the individual as well as the future.

Taking learning points from history and ongoing crises in civil societies, I will suggest three overlapping paths for future research, which all must be value

based and must contribute to a concretisation of the political concept, Sustainable Future.

- The first overlapping path is to continue to work with locally anchored approaches to practice-developmental research (Ødegaard, 2021; Wallerstedt et al., 2023). Early childhood research must be sensitive to local cultures and landscapes when working with children, families and institutions.
- The second overlapping path is to develop theory and methodology suitable for giving voice to the most vulnerable and/or unrepresented among children and families. This could include children from the global south, Indigenous or refugee backgrounds, and/or children with urgent or permanent need of special support. Survival kit, play, joy and hope should be integrated into the research design.
- The third overlapping path is to include co-creation and innovation in research designs. A manifold of stakeholders might have a better chance of approaching, understanding and solving wicked problems, than the early childhood researcher alone.

Therefore, the next step for early childhood education for sustainability research is to join forces between interdisciplinary teams and design research projects that include research areas of leadership and governance, economy, ecology, sociality and education. Education will include both early childhood education, as well as higher education and further development (professional development).

In times of multiple and entangled crises, due to wars, climate change neglect, and multiple wicked problems that harm the most vulnerable, the next step of early childhood education and care should be to undertake collaborative research initiatives where co-creation and pedagogical innovation include collaborators across academia, organisations and stakeholders from the early childhood educational field. Early childhood researchers have a responsibility to not forget the history or local culture, but take the best from the tradition, be sensitive to cultures and landscapes, when designing and arguing for the best interests of children, families, education and planet (Oropilla & Ødegaard, 2021). Researchers must make sure that all the accumulated knowledge of children's development, needs, and local situations have an impact on policies of change and hope for

sustainable futures.

Early childhood education and care is not only a crucial phase in a child's development, but it is also a crucial place for professions, for local and world leaders and politicians to study and learn from quality aspects of how quality education can lead to wisdom, kindness and promote the importance of formative development. Kindness and collaboration are values that are often associated with the history of early childhood education and care, an educational approach where the social and emotional development of young children is seen as integrated with academic and formative development. It is on these important arguments that future early childhood education for sustainability research must deepen our knowledge on how children, as part of intergenerational communities, experience, explore, discover and learn (Oropilla & Ødegaard, 2021).

To conclude; the next step for Early Childhood Education for Sustainability research will be to highlight values of survival for the next generation, the planet, and to join forces in and beyond early childhood education research. Research designs that co-create with different stakeholders will be crucial. It is an important responsibility for the early

childhood researchers to bear in mind the best interests of the child when creating and engaging in sustainability research. To advocate for children's rights to humanity and sustainable futures could be achieved through a UN Decade of Early Childhood Education (OMEP World, 2022). A UN Decade of Early Childhood Education would give attention and resources to deepen knowledge in the best interests of children from a global and intergenerational perspective.

REFERENCES

- Ødegaard, E. E. (2021). Reimagining “Collaborative Exploration” – A signature pedagogy for sustainability in early childhood education and care. *Sustainability*, 13(9).
- OMEP World (2022). *Towards a Decade of Early Childhood Care & Education*. Decade-ENG-SP-FR_36p.pdf (omepworld.org)
- Oropilla, C. T. & Ødegaard, E. E. (2021). Strengthening the call for intentional intergenerational programmes towards sustainable futures for children and families. *Sustainability*, 13(10).
- Wallerstedt, C., Brooks, E., Ødegaard, E. E. & Pramling, N. (2023). *Methodology for research with early childhood education and care professionals – Example studies and theoretical elaboration*. Springer Nature Publishing Company.

Urban or sustainable? Rethinking children growing up in cities

BIO

Associated Professor Kari Anne Jørgensen-Vittersø at OsloMet University, Department of International Studies, and teacher Education. Institute of Early Childhood. Researcher and lecturer in outdoor education and education for sustainability in teacher and early years teacher education. Special interest in sustainability in education connected to children's landscapes and places. Educated as a teacher with resource management, biology, and physical education. PhD, University of Gothenburg, in pedagogical work on children's encounters with nature landscapes and places.

For decades, many of my colleagues and myself working with learning for sustainable development have embedded this theme into our university outdoor education teaching, mostly taking students out into the forest or other nature areas. Working at a university located in the centre of Oslo, OsloMet, the environment surrounding the campus is urban. Most of our early childhood teacher students will work in urbanised landscapes. At the same time, there is an increased pressure on green areas. 80% of Norwegians live in cities or densely built-up areas. Compared with the 1950s, only 20-30% of green areas still exist (Miljødirektoratet, 2023). Sustainable development is a core value defined according to the UN, including environmental, social, and economic aspects. From the Norwegian Framework Plan for the content and tasks of kindergartens (UDIR, 2017): *Sustainable development is about how people who are alive today can have their basic needs met without denying future generations the opportunity to fulfil theirs* (p. 10). In addition: *The children shall be given outdoor experiences and discover the diversity of the natural world, and kindergartens shall help the children to feel connectedness with*

nature (p. 11) The first quote follows the UN definition (Brundtland, 1987), and the second gives direction for the use of the outdoors connected to education for sustainable development. The second points towards the necessity to take the children outdoors and promote an awareness of the natural diversity in the local areas around kindergartens.

In the following, I reflect on ways to raise awareness of how to work with education for sustainable development during early childhood.

SUSTAINABILITY, BIODIVERSITY AND CHILDREN'S PLAY

Suburban landscapes are commonly transformed from a rural to a more densely built housing area with high-rise blocks, detached houses, and villas. Urban environments are different, they are diverse and of importance for the children living there (Beery et.al, 2020; Malone, 2013). There are several studies analysing landscapes for children's play using the theories of affordances and theories of visual perception (Fjørtoft, 2001; Heft, 1986; Kyttä, 2004; Sandseter, 2010).

Just as affordances refer to the function

of the landscapes, biodiversity connects to diversity and the numbers of species. Looking only at the landscape function for play may leave out important aspects to be addressed in education for sustainability such as nature connections and the richness of sensory experiences.

In an action research project to promote increased physical activity for all children, we saw the importance of small pockets of green areas inspiring the children regarding play and movement. These places were not designed as playgrounds, most of them were hidden in-between built-up areas and busy roads. (Jørgensen-Vittersø & Kaarby, 2021). A further investigation of registration of plant species across the neighbourhoods of three early childhood institutions combined with the registration of the places the children preferred to play showed an interesting pattern. Places with high biodiversity overlapped with places preferred for play and movement by the kindergarten children.

ART OF SEEING, WALKING THE LANDSCAPE

One way to be aware of the local environment is simply to walk the landscape, slowly. Walking with children following their pace is to become aware of

the qualities of the landscapes, not only for humans, but also for other species.

In Oslo, there are environmental city projects re-opening streams and rivers to restore blue and green environments (City of Oslo, 2023). One award-winning example is Hovinbekken, a stream within the same area as the early childhood institutions reporting above about the importance of green areas in their local environments.

Walking along this waterway from its origins down to the city centre gives an insight into the places with rich biodiversity and sensory experiences for children. The effect on wildlife is well-documented, however, the experiences this environment offers children is less explored. Their experiences can be explored in light of life phenomenology as being embodied (Bengtsson, 2002; Merleau-Ponty, 1962) and emplaced (Casey, 1993). Across all the places depicted in Figures 1–4, there were different smells, sounds and the ground offered different tactile and kinaesthetic experiences.



Figure 1: Road.



Figure 2: Into the wild.



Figure3: Pond – habitat for birds.



Figure 4: Trees for climbing.

If we are not aware of these places, they are often not used by children. I argue early childhood student teachers do not learn to look for these places, if they are not trained to do so.

ENTANGLEMENTS AND THE MORE-THAN-HUMAN

Even in the inner city of Oslo, we find small areas that offer important connections between children and the more-than-human. One example are the pigeon houses that can be found in parks, backyards and vacant lots as depicted in Figures 5 and 6.

URBAN OR SUSTAINABLE?

Answering the question urban or sustainable, I argue that we go for both. We need to work with lenses to see the potential of urban landscapes and develop good practices for sustainability in education. One way is to develop methods combining data from biodiversity and children moving and dwelling in biodiverse and sensory rich environments.

I see a need for new perspectives on how and where we teach sustainability and engage in the environment when working with early childhood teachers in urban and suburban areas. As educators in early childhood teacher education, we



Figure 5: Pigeon House.

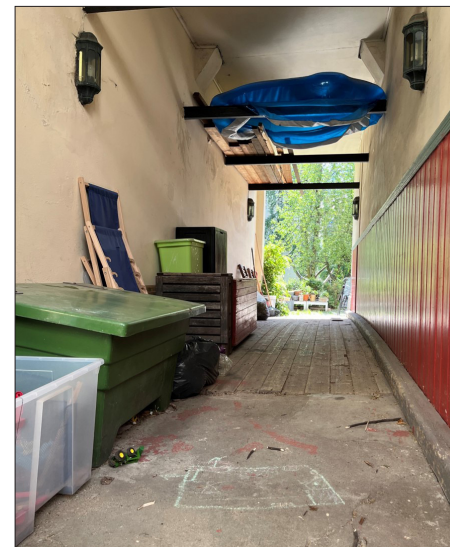
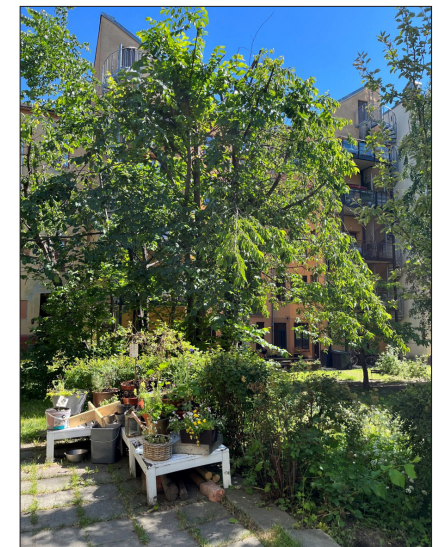


Figure 6a & b:
Backyards.



are challenged to empower pre-service teachers to see the possibilities, find good places for encounters with plants and animals and good places for outdoor play and exploration.

Rethinking early childhood teacher education in times of the Anthropocene, we need to look at what education for sustainability may be. In this respect, there are some possibilities I suggest we investigate further:

- Transformative and interdisciplinary teaching and learning (Wals, 2014). Adding the action aspect to education for sustainability.

- Slow pedagogy (Clark, 2023), think time and pace when working with children.

- Wild pedagogy (Jickling et.al., 2018) especially looking for wild places in densely built areas.

- Awareness of the web of connections and ways to work with the children in their local environments will be a challenge for the future.

REFERENCES

- Beery, T. H, Chawla, L & Levin, P (2020). Being and becoming in nature: Defining and measuring connection to nature in young children. *International Journal of Early Childhood Environmental Education*, 7(3), 3–22.
- Beery, T. & Jørgensen, K. A. (2018). Children in nature: Sensory engagement and the experience of biodiversity. *Environmental Education Research*, 1350–4622.
- Bengtsson, J. (2001). *Sammanflätningar: Husserls och Merleau-Pontys fenomenologi*. Daidalos.
- Casey, E. (1996). *Getting back into place a renewed understanding of place-world*. Indiana University Press.
- Clark, A. (2023). *Slow Knowledge and the Unhurried Child: Time for Slow Pedagogies in Early Childhood Education*. Routledge
- Department of Education. (2017). <https://www.udir.no/laring-og-trivsel/rammeplaner/>
- Fjørtoft, I. (2001). The natural environment as a playground for children: The impact of outdoor play activities in pre-primary school children. *Early Childhood Education Journal*, 29(2), 111–117.
- Heft, H. (1988). Affordances of children's environment: A functional approach to environmental description. *Children's Environments Quarterly*, 5(3), 29–37.
- Jickling, B., Blenkinsop, S., Timmermann, N. & Sitka, M. (2018). *Wild pedagogies: Touchstones for re-negotiating education and the environment in the Anthropocene*. Palgram.
- Jørgensen-Vittersø, K.A.& Kaarby, K.M.E. (2021) På spor etter drabantbyens steder, I Jørgensen-Vittersø K.A.& Vik, U. *Barn I by*, Universitetsforlaget
- Kyttä, M. (2004). The extent of children's independent mobility and the number of actualized affordances as criteria for child-friendly environments. *Journal of Environmental Psychology*, 24(2), 179–198.
- Malone, K (2015). Children's Rights and the Crisis of Rapid Urbanisation. *The International journal of children's rights*, 23(2), 405–424.
- Miljødirektoratet(2023). <https://miljostatus.miljodirektoratet.no/>
- Merleau Ponty, M. (1962) *Phenomenology of perception*. Routledge.
- Norgeskart <https://norgeskart.no/#!project=norgeskart&layers=1002&zoom=3&lat=7197864.00&lon=396722.00>
- Oslo City. <https://www.oslo.kommune.no/https://miljostatus.miljodirektoratet.no/tema/friluftsliv/friluftsliv-i-byene/>
- Sandseter, E.B.H.(2009). Affordances for Risky Play in Preschool: The Importance of Features in the Play Environment. *Early childhood education journal*, 36(5), 439–446.
- Wals, A. (2014). Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes. *Journal of Cleaner Production*, 62(1), 8–15.
- World Commission on Environment and Development (1987). *Vår felles framtid*. Tiden Norsk Forlag.
- UN (2015). Sustainable Development Goals. <https://sdgs.un.org/goalshttps://www.cbd.int/conventionhttps://www.artsdatabanken.no/Artsdatabanken.no>

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The need for quantitative studies in understanding and advancing early childhood education for sustainability practices

BIO

Deniz Kahriman Pamuk holds Ph.D. in Early Childhood Education from Middle East Technical University, Ankara, Turkey, and is currently an associate professor at the Department of Early Childhood Education, Mersin University. In addition, she is a visiting scholar at Gothenburg University, working on a postdoctoral research project. Her research interests primarily focus on Early Childhood Education for Sustainability. She is passionate about integrating sustainability into Early Childhood Education Curricula, promoting in-service teacher education through ongoing research and professional development courses, and encouraging cross-faculty teaching, learning, and research.

Early Childhood Education for Sustainability (ECEfS) has gained significant momentum in recent years, recognizing the essential role of early education in fostering sustainable mindsets and practices (Årlemalm-Hagsér & Elliott, 2017). This paper articulates the need for quantitative research methodologies in ECEfS, building on existing literature and emphasizing the importance of empirical evidence in policy and practice.

ECEfS transcends conventional teaching methods by embedding sustainable values and practices into the core of early education. As noted by UNESCO (2008) and Pramling Samuelsson and Kaga (2008), ECEfS aims to cultivate a lifelong commitment to sustainability among young children. Recognising its importance, UNESCO has stressed the integration of sustainability into early childhood education as a crucial strategy for achieving the Sustainable Development Goals (SDGs) (UNESCO, 2015). Countries like Australia and Sweden have already prioritized this integration within their preschool curricula (AGDE,

2022; Skolverket, 2018). Such a concerted effort aims to instill sustainability competencies early among young children (Pramling Samuelsson, 2011), laying the groundwork for sustainable futures. To achieve the best possible outcomes in ECEfS, it is vital to develop a thorough grasp of the policy and curriculum materials relevant to this domain (Li et al., 2019; Pamuk et al., 2021). However, more than the mere inclusion of sustainability in the curriculum is required to ensure the delivery of high-quality ECEfS practices (Borg & Samuelsson, 2022). The role of preschool teachers is paramount in effectively delivering ECEfS practices, as highlighted by Dymont et al. (2014) and Inoue (2016). While the OMEP Environmental Rating Scale for Sustainable Development in Early Childhood (ERS-SDEC) was implemented in several countries to investigate progress in ECEfS practices, there is still a need for research to better define and evaluate these practices, as underlined by Siraj-Blatchford et al. (2016) and Kahriman et al. (2019).

In a recent systematic review, Guler-Yil-

diz et al. (2021) noted that preschool teachers' ECEfS practices tend to focus on the environmental pillar of sustainability, although other pillars are now gaining recognition. It is worth noting that much of the existing ECEfS research has relied on qualitative methodologies, such as interviews and observations, to gain insights into preschool teachers' practices. While these methods have significantly contributed to a deeper understanding of ECEfS practices, there remains a notable gap in research concerning the definition of these practices and the factors influencing them from a holistic perspective, including social and economic pillars.

I argue that quantitative research methodologies are crucial in constructing a thorough understanding of Early Childhood Education for Sustainability (ECEfS). These methodologies enable the quantification of variables associated with preschool teachers' competencies and their influence on ECEfS practices (Harrison & Wang, 2018). By transforming these variables into numerical data, quantitative approaches allow for statistical analysis to reveal patterns, cause-effect relationships, correlations, trends and norms (Martin & Bridgmon, 2012). Such research is especially beneficial for

comparative studies, including those involving cross-cultural comparisons or different time periods. Quantitative research offers empirical evidence that is vital for policymakers and educators to make informed decisions (Burns & Schuller, 2007). It enables the evaluation of the impact of various ECEfS practices and interventions, thus providing an objective approach to assessing program outcomes. Statistical analyses aid in determining the statistical significance of findings, suggesting whether observed changes or relationships are likely due to more than just chance (Frankel et al., 2018). This adds a level of rigor and reliability to ECEfS research. Reliable measurement of progress when implementing sustainability practices is crucial to promote the transparency of these efforts (Kahriman et al., 2019).

In conclusion, the significance of ECEfS is well-established within the literature. However, there appears to be a noticeable incongruity in the practices adopted by preschool teachers, with a primary focus on environmental education, as evidenced by various research studies. This highlights the pressing need for the development of concrete, valid, and reliable indicators that can effectively demonstrate the components

and impact of ECEfS practices empirically. The implementation of such measures will aid in improving the effectiveness of ECEfS practices. The scarcity of quantitative research in this area underscores the need for further exploration to guide informed decision-making in promoting ECEfS. While qualitative research offers valuable insights into individual experiences and perspectives, quantitative research complements this by providing systematic, measurable data. Exploratory and descriptive quantitative approaches are deemed to advance insights into ECEfS practices. By developing a better understanding of the factors influencing preschool teachers' ECEfS practices, we can work towards building a more sustainable future for all, as teachers hold the potential to significantly influence children's knowledge and attitudes towards sustainability.

REFERENCES

- Australian Government Department of Education (AGDE) (2022). *Belonging, being and becoming: Early years learning framework for Australia, V 2.0*. Australian Government Department of Education for the Ministerial Council.
- Ärlemalm-Hagsér, E., & Elliott, S. (2017). Contemporary research on early childhood education for sustainability. *International Journal of Early Childhood*, 49, 267–272.
- Borg, F., & Pramling Samuelsson, I. (2022). Preschool children's agency in education for sustainability: The case of Sweden. *European Early Childhood Education Research Journal*, 30(1), 147–163.
- Burns, T., & Schuller, T. (2007). *Evidence in education: Linking research and policy*. Organisation for Economic Co-operation and Development.
- Dymont, J. E., Davis, J. M., Nailon, D., Emery, S., Getenet, S., McCrea, N., & Hill, A. (2014). The impact of professional development on early childhood educators' confidence, understanding and knowledge of education for sustainability. *Environmental Education Research*, 20(5), 660–679.
- Fraenkel, J., Wallen, N., & Hyun, H. (2018). *How to design and evaluate research in education* (10th ed.). McGraw Hill.
- Güler Yıldız, T., Öztürk, N., İlhan İyi, T., Aşkar, N., Banko Bal, Ç., Karabekmez, S., & Höl, Ş. (2021). Education for sustainability in early childhood education: A systematic review. *Environmental Education Research*, 27(6), 796–820.
- Harrison LJ., Wang C. (2018). Current approaches in quantitative research in early childhood education. In M. Fleer M, & B. van Oers (Eds.) *International Handbook of Early Childhood Education*, 295–316. Springer. https://link.springer.com/chapter/10.1007/978-94-024-0927-7_12
- Inoue, M., O'Gorman, L., & Davis, J. (2016). Investigating early childhood teachers' understandings of and practices in education for sustainability in Queensland: A Japan Australia research collaboration. *Australian Journal of Environmental Education*, 32(2), 174–191.
- Kahriman-Pamuk, D., Uzun, N. B., Güler Yıldız, T., & Haktanır, G. (2019). Reliability of indicators measuring early childhood education for sustainability: A study in Turkey using generalizability theory. *International Journal of Early Childhood* 51(2), 193–206
- Li, M., Zhang, Y., Yuan, L., & Birkeland, Å. (2019). A critical analysis of education for sustainability in early childhood curriculum documents in China and Norway. *ECNU Review of Education*, 2(4), 441–457.
- Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results*. John Wiley & Sons.
- Pamuk, S., Öztürk, N., Pamuk, D. K., Elmaz, R., Yıldız, T. G., & Haktanır, G. (2021). A collaboration project on education for sustainability: Professional development needs of Turkish preschool teachers. *Journal of Theoretical Educational Science*, 14(4), 586–604.
- Pramling Samuelsson, I. (2011). Why we should begin early with ESD: The role of early childhood education. *International Journal of Early Childhood*, 43, 103–118.
- Pramling Samuelsson, I & Kaga, Y. (Eds.). (2008). *The contribution of early childhood education to a sustainable society* (pp. 1–136). UNESCO.
- Siraj-Blatchford, J., Mogharreban, C., & Park, E. (Eds.) (2016). *International research on education for sustainable development in early childhood*. Springer.
- Skolverket [The Swedish National Agency for Education]. (2018). *Curriculum for the Preschool Lpfö 2018*. The Swedish National Agency for Education.
- United Nations Education, Scientific and Cultural Organisation [UNESCO] (2008). *The Gothenburg Recommendations on Education for Sustainable Development*. UNESCO.
- United Nations Education, Scientific and Cultural Organisation [UNESCO] (2015). *Sustainable development goals*. <https://sdgs.un.org/goals>

Big Mac and Unicorns: Exploring a child rights-based transformative ESD approach for early childhood education and care with young children and ECEC practitioners

BIO

Muireann Ranta is an IRC Gov of Ireland Scholar and final year PhD candidate with socialCORE at the South East Technological University. With over 20 years of practice in early childhood education and care (ECEC), her areas of interest focus on Nature as a learning environment and children's rights. Providing children with an education that supports respect for Nature is a legal curriculum entitlement specified under Article 29 1 (e) of the United Nations Convention on the Rights of the Child (CRC). As part of her research, she has worked with young children and ECEC practitioners to explore their own perspectives and views of Nature learning under this education right. Her work provides empirical knowledge for the further development of education for sustainable development (ESD) for the ECEC sector under young children's own definitions of their education and participatory rights.

INTRODUCTION

Providing children with an education that supports a respect for Nature is a legal curriculum entitlement, specified under Article 29 1 (e) of the United Nations Convention on the Rights of the Child (CRC), as follows: "The development of respect for the natural environment" (UNCRC, 1989, p. 9). During my PhD research, I worked with children and early childhood education and care (ECEC) practitioners to explore their perspectives and views under Article 29 1 (e) to demonstrate how they could contribute to developing a "bottoms-up" transformative child rights-based education for sustainable development (ESD) approach. My findings indicated that young children define their own relationship with Nature and make their own connections with it. Furthermore, in claiming their right to education about Nature, they also establish their own definitions of participation. However, for ECEC practitioners to fulfil their duty-bearing responsibili-

ties under Article 29 1 (e), much more must be done regarding leadership and resources (training, time, and regular access to Nature) to promote such an approach.

METHODOLOGY

The study was divided into two iterations. The first iteration took place over a 9-month period in an early childhood setting in Southeast Ireland in 2019. Grounded in a child rights-based, participatory methodological paradigm, methods using nature-based activities were designed with the support of a Children's Research Advisory Group (CRAG) ($n=7$) (3–5yrs) (Lundy & McEvoy, 2011; 2012). They were subsequently implemented with a second group of child participants ($n=9$) (2–3yrs) for data collection (Ranta, 2023). The second iteration followed a participatory action research (PAR) approach to share the children's contributions with ECEC practitioners. In keeping with the concept of a "bottoms up" edu-

cational approach (Ferreria et al., 2015), this research space was conceptualised as a “community of practice” (CoP) to work directly with practitioners to gain their professional insights (Lave & Wenger, 1991).

FINDINGS FROM THE CHILDREN

The findings suggested that given the right resources (access to Nature, time, flexibility, and a familiar listening adult), children define their relationship with Nature and connect with it. This ranges from how they engage with natural artefacts to choosing their play to share knowledge and ideas. The findings also showed that taking the time to listen to these Nature connections then using them to influence learning in the research space meant that the child participants themselves could contribute competently to developing an ESD approach that had meaning for them. For example, a keen interest in animals could be identified among the child participants, which promoted learning activities such as insect hunts and making bird feeders. Figure 1 provides examples of some of the children’s knowledge about insects.

Furthermore, as the children made these connections, they helped shape a series of definitions of participation

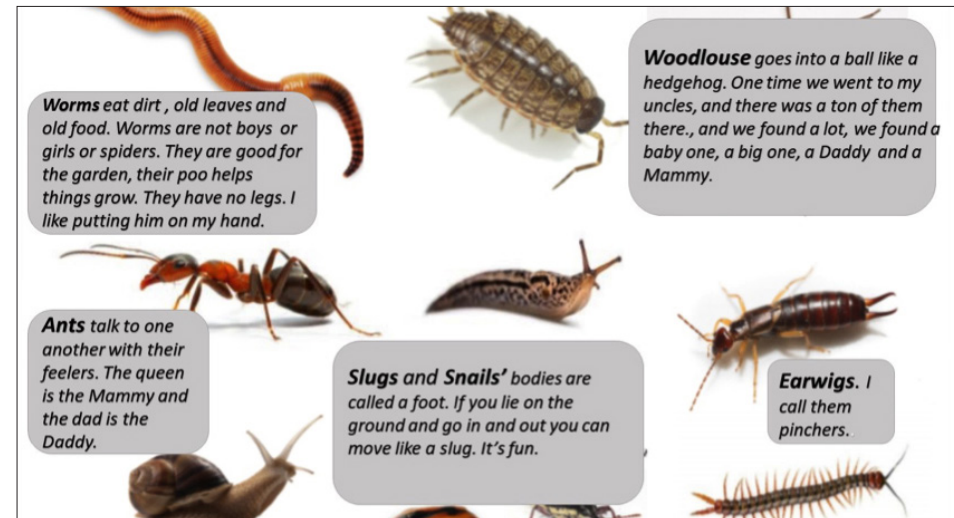


Figure 1: Extracts from the child participants' self-published text, *The Children's Nature Book*, sharing their perspectives on insects.

that supported my responsibility of ensuring that their participatory rights were authentically enjoyed. In this study, I identified various modes of child participation, e.g., *verbal, or non-verbal participation, free-flowing participation, relational participation, engagement with research tools and cultural participation*. By taking these definitions of participation, alongside the child participants' own Nature connections, I could establish how young children can be supported as partners with rights in creating authentic ESD curricula. An overview is offered in Table 1.

However, establishing that level of participation required much time, which, when presented to the ECEC practitioners in iteration two, was problematic.

FINDINGS FROM PRACTITIONERS

Findings indicated several areas that could be considered as possibilities or barriers for a child rights ESD approach. First was an area I have called *existing knowledge* that analysed practitioners' knowledge of ESD and children's rights. The analysis identified clear examples of varying degrees of learning about sustainability and child rights approaches in different settings. The most common forms of sustainable practices included

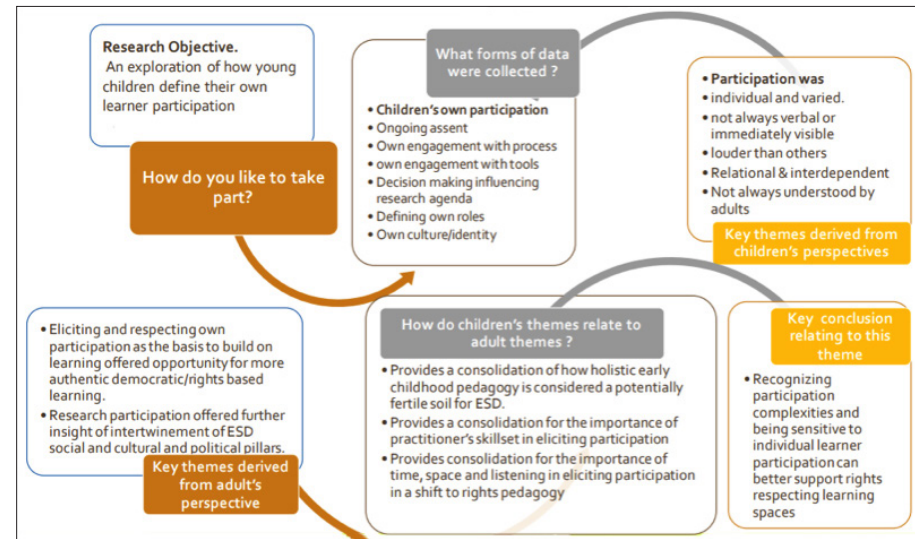


Table 1: Overview of findings for developing a child rights-based research methodology.

recycling and composting, reusing materials for art, water management and learning about Nature. Practitioners described child rights approaches as: listening to young children's interests in organising activities; giving opportunities to make choices; and, having flexibility within an activity to change direction to follow the children's lead. Some barriers identified were the limited access to Nature for some settings and a lack of sustainability training or knowledge among the practitioners.

The second area was *practitioners' capacity to enact change* as the possibilities to make the changes necessary in everyday practice for more sustainable behaviours varied within the group. Sageidet (2014) argues that an educator's attitude and the value they place on the importance of sustainability plays a role in effective ESD. However, Ferreira et al. (2015) maintain that without support from management or colleagues, the capacity to change to more pro-environmental behaviours at a whole system or, in this case, the whole setting level is also

a barrier. Moody and Dahlberg (2019) further this by underlining that to effect change across a complex system such as ECEC practitioner training, change is required amongst a wide range of training institutes, universities, government agencies, statutory authorities, and early years settings. Within this study, having the capacity and support to make changes to practice differed between participants.

The final area of interest, I named *paradigms of pedagogy* (hooks, 1994; 2003) and involved an examination of early childhood pedagogy with the practitioner participants. While slow pedagogy (Clark, 2020) and listening relational pedagogy (Lyndon et al., 2019) were identified as mutually reinforcing within a rights based ESD approach, participants also highlighted a need to instil a sense of wonderment. Specifically, wonderment surrounding Nature for the practitioners themselves before considering the more practical aspects of sharing sustainability knowledge with young children. Additionally, the participants considered

that linking sustainability practices with funding and policy could further change behaviour.

CONCLUSION

Under the CRC, young children should be supported as partners in ESD curriculum-making and overall education that develops a respect for the natural environment. However, ensuring that ECEC practitioners can fulfil their educational responsibilities requires more leadership (whole system buy-in at government and local setting levels) and resources (access to Nature, training, time and extra hands). Contributions from both study iterations offered insights into what a 'bottoms up' transformative approach looks like and where the opportunities are for all those involved early childhood education and beyond to contribute.

REFERENCES

- Clark, A. (2020). Towards a listening ECEC system. In C. Cameron & P. Moss (Eds.) *Transforming early childhood in England: Towards a democratic education* (pp. 134–150). UCL Press.
- Ferreira, J., Ryan, L. & Davies, J. (2015). Developing knowledge and leadership in pre-service teacher education systems. *Australian Journal of Environmental Education*, 31(2), 194–207.
<https://doi.org/10.1017/aee.2015.24>
- hooks, B. (1994). *Teaching to transgress: Education as the practice of freedom*. Routledge.
- hooks, B. (2003). *Teaching community: A pedagogy of hope*. Routledge.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511815355>
- Lundy, L. & McEvoy, L. (2011). Children’s rights and research processes: Assisting children to (in)formed view. *Childhood*, 11(1), 16–28.
- Lundy, L. & McEvoy, L. (2012). Childhood, the United Nations Convention on the Rights of the Child and research: What constitutes a “rights-based” approach? In M. D. A. Freeman (Ed.) *Law and Childhood: Current legal issues* (pp. 75–93). Oxford University Press.
- Lundy, L., McEvoy, L. & Byrne, B. (2011). Working with young children as co-researchers: An approach informed by the United Nations Convention on the Rights of the Child. *Early Education & Development*, 22(5), 714–736.
<https://doi.org/10.1080/10409289.2011.596463>
- Lyndon, H., Bertram, T., Brown, Z. & Pascal, C. (2019). Pedagogically mediated listening practices: The development of pedagogy through the development of trust. *European Early Childhood Education Research Journal*, 27(3), 360–370.
<https://doi.org/10.1080/1350293X.2019.1600806>
- Mukherji, P. & Albon, D. (2018). *Research methods in early childhood: An introductory guide* (3rd Edn.). Sage Publications.
- Moody, Z., & Darbellay, F. (2019). Studying childhood, children, and their rights: The challenge of interdisciplinary. *Childhood*, 26(1), 8–21.
<https://doi.org/10.1177/0907568218798016>
- Ranta, M. (2023a). “Can we see our voices?” – young children’s own contributions to authentic child participation as a pillar for sustainability under the United Nations Convention on the Rights of the Child (UNCRC). *EECERA International Journal*.
<https://doi.org/10.1080/1350293X.2023.2214716>
- Ranta, M. (2023b). Positioning the young child as a rights holder within ESD curricula making under Article 29 1 (e) of the United Nations Convention on the Rights of the Child. *An Leanbh Og ESD Special Edition*.
- Sageidet, B. M. (2014). Norwegian perspectives on ECEfS: What has developed since the Brundtland Report. In J. Davis & S. Elliott (Eds), *Research in early childhood education for sustainability: International perspectives and provocations* (pp. 112–124). Routledge.
- United Nations Convention on the Rights of the Child (UNCRC) (1989). *Convention on the rights of the child*. UN General Assembly.

Revisiting and developing peace education in early childhood

BIO

Barbara Maria Sageidet is a professor in natural science, at the Department of early childhood education, University of Stavanger, Norway. She has a background in ecology, and paleoecology and a PhD in soil and environmental sciences. Her research is related to science education, sustainability in early childhood education, human – nature interrelationships, environmental citizenship, urban childhoods and garden learning. Sageidet is a co-leader of the project “Children as eco-citizens” of the National Kindergarten Knowledge Center, Western Norway University of Applied Sciences (KINDknow). Since 2010, she has been a member of the Transnational Dialogues in Research in Early Childhood Education for Sustainability (TND).

In this paper, I focus on the need to revisit peace education, and to develop and strengthen peace education in early childhood, as part of early childhood education for sustainability. Peace education refers to humanitarian concerns, equal rights, liberty, equality, social justice, and social competences. Both scholars and (early childhood) teachers have emphasized the relationships with sustainable development, environmental education and value education. Peace education is central in the Earth Charter and in the Global Sustainable Development Goal 16. Alfonso (2014) defines peace education in early childhood. Embedded in sociocultural theory. I explore the literature and approaches to developing and strengthening peace education in early childhood. I argue for peace education as integral to early childhood education for sustainability (ECEfS). Acknowledging children as being and becoming global and ecological citizens, peace education may further pedagogies to promote humane, sustainable, and just societies on all levels from small groups in kindergarten to the global society of humankind.

INTRODUCTION

There has been a considerable international increase in research output and capacities around early childhood education for sustainability (ECEfS) over the last decade. This has been inspired by the United Nation’s Decade for Education for Sustainable Development (UNESCO, 2012), the 17 Sustainable Development Goals (SDGs) (United Nations, 2015), and networking and collaborations in the field (Emery et al., 2017; Elliott et al. 2020; Güler et al., 2021). Researchers may build further on their capacities in various directions, for example, towards the integrating peace education in ECEfS. Multiple ongoing conflicts on our planet, for example the current wars in Ukraine, Israel-Gaza and Sudan, sadly remind us of the importance to revisit, develop and strengthen peace education, and to integrate it into early childhood education (Alfonso, 2014).

Peace education is as old as mankind and was defined by philosophers like Rousseau (1712–1778) and Kant (1724–1804). They did not use the term “peace education”, but emphasized similar themes, like humanitarian concerns, equal rights, liberty, equality, and soci-

al justice. Peace education's early focus has been on disarmament and the prevention of war. Critical peace education grew from Paulo Freire's *Pedagogy of the Oppressed* (Bajaj & Brantmeier, 2011; Freire, 1970). Critical peace education is framed as problem-posing, dialogical and analytical in nature, leading to a critical consciousness for transformative action.

The Earth Charter (Earth Charter Commission, 2000) has been an important international, intercultural, and interreligious document with a special focus on non-violence and peace, and thus complementary to the Brundtland report (WCED, 1987). Informed by ethical principles for sustainability, it is a valuable resource to generate reflections that may lead to changes in attitudes, values and behaviours (Corcoran, 2012). The Sustainable Development Goal 16, promotes "peaceful and inclusive societies for sustainable development, and provide access to justice to all and build effective, accountable, and inclusive institutions at all levels" (United Nations, 2015). Building on sociocultural theory (Vygotsky, 1986), in this literature study I research the question: How can peace education in early childhood be developed and strengthened as integral to ECEfS?

PEACE EDUCATION AND PEACE EDUCATION IN EARLY CHILDHOOD EDUCATION

Peace education is broadly defined as the educational policy, planning, pedagogy, and practice that develops awareness, skills and values toward peace (Alfonso, 2014). Peace education has developed as a scholarly field over the past 40 years, from the field of peace and conflict studies, mainly founded by the Norwegian sociologist Galtung (1969).

The holistic approach to early childhood education creates an open door to the integration of peace education (Alfonso, 2014). Peace education in kindergarten is based on the Human Rights and the Convention on the Rights of the Child (UN, 1989). Alfonso (2014) defines peace education in early childhood as a sustainable approach with a focus on young children's social competences. He divides peace education into four pillars: respect for self; appreciation of diversity; understanding of justice and fairness; and, awareness of mutual connections between humans. These pillars are all founded on creativity and critical thinking. Peace education in early childhood includes pedagogies promoting peaceful social interactions and the development of social competences (Alfonso, 2014).

Early childhood teacher, Pratt (2014), has simplified The Earth Charter for young children with four principles: 1. Be kind to each other, to the animals and the plants; 2. Take good care of the environment; 3. We are all equal; and, 4. Say yes to peace and no to violence.

HOW CAN PEACE EDUCATION IN EARLY CHILDHOOD EDUCATION BE DEVELOPED AND STRENGTHENED AS AN INTEGRAL TO ECEfS?

Peace education is somewhat evident across theory and pedagogy in early childhood education, however, I argue the integral role of peace education requires stronger definition and acknowledgement. Peace education is closely related to and shares common goals with sustainable development and environmental education (Bajaj & Chiu, 2009; Corcoran, 2012; Reardon, 2012) and this should be made explicit in pedagogical contexts. Reardon (2012) underlines that promoting sustainable development is a key component of comprehensive global peace. The role of education in addressing values to promote peace, protect the environment and develop a more sustainable society (Bajaj & Chiu, 2009), need to be "translated" into early childhood education pedagogies.

Education and development that is good for all humankind, the Earth's ecosystems and a peaceful world society, is a key message for promoting global citizenship (Næss 1976; Pope Francis 2015; Sageidet & Heggen, 2021; UNESCO 2012; United Nations, 2015). This initiative and model for social, democratic, ecological and economic interactions, should be further explored to promote young children as both being and becoming global and ecological citizens (cf. Heggen & Sageidet, 2019). The Earth Charter and more recently multiple scholars have expanded and validated the importance of global citizens, citizens with awareness of mutual connections and responsibilities between humans (Alfonso, 2014) and the non-human community of life (The Earth Charter Commission, 2000).

Children in kindergarten may have various experiences with violence/non-violence, justice/injustice, or social safety in their environments. Children may have real and/or digital experiences with violence and/or war. I argue it is important to research and develop pedagogical approaches to meet these challenges and facilitate local and international exchanges. Practitioners and researchers may explore how peace education is

related to questions of social competence, gender, nature and outdoor learning (Bevington et al., 2020).

CONCLUSION

There is a close interrelationship between ecological responsibility, peace, social justice, and sustainable development. Early childhood education can build peace education pedagogies on established holistic early childhood education approaches. Peace education is concerned with cultivating citizens for global ecological citizenship. Peace education is about teachers developing and implementing pedagogies to promote humane, sustainable and just societies on all levels from small groups in kindergarten to the global society of humankind. Comparative studies may reveal the potential for intercultural exchanges and collaboration on peace education in early childhood.

REFERENCES

- Alfonso, S. M. (2014). Peace education in early childhood. *Journal of Peace Education and Social Justice*, 8(2), 167–188.
- Bajaj, M. & Brantmeier, E.J. (2011). The politics, praxis, and possibilities of critical peace education. *Journal of Peace Education*, 8(3), 221–224. <https://doi.org/10.1080/17400201.2011.621356>
- Bajaj, M. & Chiu, B. (2009). Education for sustainable development as peace education. *Peace and Change*, 34(4), 441–455. <https://blogs.ucl.ac.uk/peaceeducation/2022/02/22/what-can-peace-education-do-on-the-eve-of-war/>
- Bevington, T., Kurian, N., & Cremin, H. (2020). Peace education and citizen education: Shared critiques. In A. Peterson, G. Stahl & H. Soong (Eds.), *The Palgrave Handbook of Citizenship and Education* (p. 155–168). Palgrave Macmillan.
- Corcoran, P. B. (2012). The Earth Charter as an integrative force for peace education and environmental education. In A. L. Wenden (Ed.), *Education for a culture of social and ecological peace* (pp. 183–196). State University of New York Press.
- Elliott, S., Årlemalm-Hagsér, E. & Davis, J. (Eds.) (2020). *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies*. Routledge.
- Emery, S., Davis, J., Sageidet, B. M., Hirst, N., Boyd, D. & Browder, J. K. (2017). Transnational Dialogues for sustainability research in early childhood education: A model for building capacity for ESD in universities? In W. Leal Filho, L. Brandli, P. Castro, J. Newman (Eds.), *Handbook of theory and practice of sustainable development in higher education* (pp. 143–156). World Sustainability Series, Springer. https://doi.org/10.1007/978-3-319-47889-0_11
- Freire, P. (1970). *Pedagogy of the oppressed*. Continuum.
- Galtung, J. (1969). Violence, peace and peace research. *Journal of Peace Research*, 6(3), 167–191.
- Güler, T. Y., Öztürk, N., Iyi, T.I., Askar, N., Bal, C.B., Karabekmez, S. & Höl, S (2021). Education for sustainability in early childhood education: A systematic

- review. *Environmental Education Research*, 27(6), 796–820. <https://doi.org/10.1080/13504622.2021.1896680>
- Heggen, P. M., Sageidet, B. M., Goga, N., Grindheim, L. T., Bergan, V., Utsi, T. A., Wallem Krempig, I., Lyngård, A. M. (2019). Children as eco-citizens? *Nordic Studies in Science Education (NorDiNa)*, 15(4), 387–402. <https://doi.org/10.5617/nordina.6186>
 - Næss, A. (1976). *Økologi, samfunn og livsstil*. Universitetsforlaget.
 - Pope Francis (2015). *Laudato Si – On care of our common home*. Encyclical letter. Vatican Press. http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html
 - Pratt, R. (2014). Practical possibilities and pedagogical approaches for early childhood education for sustainability: The Kenmore West story. In J. M. Davis (Ed.), *Young children and the environment* (pp. 76–102). Cambridge University Press.
 - Reardon, B. A. (2012). Education for sustainable peace: Practices, problems and possibilities. In P. Coleman (Ed.), *Psychological components of sustainable peace*. Peace Psychology book Series, Springer. https://doi.org/10.1007/978-1-4614-3555-6_17
 - Sageidet, B. M. & Heggen, M. P. (2021). Global citizenship and the Sustainable Development Goals. In W. L. Filho, P. Gökçin Özuyar, A. M. Azul, L. Brandli, U. Azeiteiro & T. Wall (Eds.), *Reduced inequalities. Encyclopedia of the UN Sustainable Development Goals*. Springer. https://doi.org/10.1007/978-3-319-71060-0_45-1
 - The Earth Charter Commission (2000). *The Earth Charter*. The Hague.
 - UNCRC. (1989). *United Nations General Assembly 44, resolution 25, November, 20th, 1989. Convention on the Right of the Child. Resolution 44/25*. <http://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf>
 - UNESCO. (2012). *Shaping the education of tomorrow*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000216606>
 - United Nations (2015). *Transforming our world: The 2030 Agenda for sustainable development*. United Nations (UN), Department of Economics and Social Affairs. UNESCO. <https://sdgs.un.org/2030agenda>
 - Vygotsky, L. S. (1986). *Thought and language*. Harvard University Press.
 - WCED (1987). *Our common future. A report from the United Nations world commission on environment and development*. Oxford University Press.

Solidarity – within and beyond the Early Childhood Education settings

BIO

Eva Ärlemalm-Hagsér is a Professor in the Division of Early Childhood Education within early childhood teacher education. Eva is research leader for the research department Children and Young People at School and in Society (BUSS). Her research focus is on education for sustainability in early childhood education and children's participation and agency within policy and practices. As well as sustainability education in initial teacher education. She is appointed convener of the Special Interest Group (SIG) Sustainability in Early Childhood Education within the European Early Childhood Education Research Association (EECERA) and a current co-convener and active participant in the Transnational Dialogues in Early Childhood Education for Sustainability research group since 2010.

At the beginning of 2024, it was reported that 2023 was the warmest year in recorded history. The Earth is suffering from the human-made changes to nature, to the Earth's biodiversity and resources. Humanity's impact on the Earth, called the *Great Acceleration*, has since the mid-20th century until today changed the Earth's geology and ecosystems. Now is the time to combat climate change and prevent further habitat and biodiversity loss. For humans and more-than-humans to live healthier now and in the future we are urged to restore and regenerate our damaged planet. In this paper, I discuss the meaning of solidarity in relation to sustainability and what it can mean in the everyday life of Early Childhood Education (ECE) services. The concepts I will explore in this text are internal *institutional solidarity* (in the ECE service and with children), *external solidarity* (outside the immediate sphere of the ECE service) and *solidarity across time and space* (solidarity with future generations and other than humans). An ECE service that works with solidarity supports children in feeling safe, pro-

motes wellbeing here and now with the individual child and the group. It also offers compassion for others outside their immediate sphere in solidarity with the Earth, more-than-humans and the future generations of life on Earth.

WORKING WITH INSTITUTIONAL SOLIDARITY IN EARLY CHILDHOOD EDUCATION

Solidarity as a concept can be understood in many ways. Berthelsen, Brownlee and Boulton-Lewis (2012) argue that solidarity is about learning to live together with each other in ECE and recognizing the importance of shared understandings and respect for others. According to Smith (2012), solidarity is about the feeling of belonging, of interacting, of empathy for, knowing something about, and relating to a group of people.

We are all dependent on each other and positive relationships and social interaction are crucial for children in the present and future to feel the value of a larger community. This means creating an ECE setting where individual and collective care, inclusion, and expressing

and developing empathy are central. The work on human rights, social equality, gender equity, and participatory rights is also prominent in ECE and all staff have a crucial role to play in creating opportunities for this work with children. In the Swedish ECE setting (preschool with the enrolled children aged 1–6 years), solidarity with the weak and vulnerable are values that ECE staff should keep alive, according to the Swedish preschool curriculum (The Swedish National Agency for Education, 2019).

Every single person working in the preschool should promote respect for the inviolability of human life, individual freedom and integrity, the equal value of all people, equality between women and men, girls and boys, and solidarity between people. No child in the preschool should be subjected to discrimination on the grounds of the gender, transgender identity or expression, ethnic origin, religion or other belief, disability, sexual orientation or age, of the child or any person with whom the child is associated, or to any other abusive treatment (p. 5).

ECE has great opportunities to offer knowledge content and learning pro-

cesses that promote children’s solidarity, compassion and action skills and the goal in the Swedish curriculum is to develop “openness, respect, solidarity and responsibility” (p. 13) among the children and staff. However, the word solidarity is not frequently used in the preschool teacher’s general vocabulary as testified by this teacher:

We have not used the words solidarity in our work in preschool, but we work a lot with camaraderie, inviting to play, sharing. It can be in the play with toys [as well as] that the fruit at fruit time should be enough for all the children, something that I see as working with solidarity. (Swedish preschool teacher, 2020)

The work in ECE settings with social sustainability is ultimately a work of solidarity. Another word close to the concept of solidarity is *belonging* (Johansson & Purulia, 2021). Research has shown that there is a growing concern about that even the youngest children meeting challenges such as discrimination, rejection and harassment in ECE and in wider society (Einarsdottir et al., 2022; Einarsdottir & Ólafsdóttir, 2021; Emilson & Eek-Karlsson, 2022; Puroila

et al., 2023). The work of internal institutional solidarity is about developing a sense of belonging between children and adults and between children themselves, as well as developing empathy and a willingness to support and help others. It is about taking advantage of and developing children’s capacities for a sense of responsibility and social readiness to act, as well as strengthening children’s compassion and empathy for other people’s situations, so that solidarity and respect are established at an early age. It can be to work with care and inclusion, plus respect for differences and friendships within the ECE group. In this role, ECE staff are responsible for creating a “good” climate, where children feel safe and are treated with respect and have the right not to be discriminated against. Furthermore, it is about establishing respect and esteem for every human being, regardless of background. It is about developing the ability of ECE staff to live with and understand the values inherent in linguistic and cultural diversity and contribute to the development of multicultural competence and belonging.

EXTERNAL SOLIDARITY AND SOLIDARITY ACROSS TIME AND SPACE

Solidarity can also be the development of compassion for others outside one's immediate sphere, in the local community or other countries, near or far. In addition, such compassion can extend beyond time and space. It is also about feeling involved, having influence and being part of a community (Sommer, Pramling Samuelsson & Hundeide, 2009). One approach is to explore the dilemmas that arise when different values and realities come into conflict with each other – economic, social, cultural and political – as knowledge of what appears to be unfair towards children (Hägglund & Johansson, 2014).

In a Swedish study (Dolk, 2023), social vulnerability in the form of begging was discussed with ECE teachers. Notably since 2007, begging in Sweden is a new phenomenon connected to the expansion of the European Union, which led to more countries coming under international rules of “free movement”. Since then, poorer people from Eastern Europe have travelled to Sweden and beggars can be seen sitting outside shops and shopping centres. The study reported that beggars were visible in the children's everyday lives and neighborhoods and

most of the teachers have met “beggars” when they have been on neighborhood walks with the children. However, none of the teachers had raised the issue of begging for discussion with the children. The teachers also stated that the children rarely asked about the beggars, such as this new normality in public spaces. The teachers stated that both they and the parents avoiding talking about the phenomenon as it raised different educational and ethical difficulties. The three most central findings in the study were that teachers described: i) the fear of reinforcing “us” and “them”; ii) uncertainty about dealing with power relations; and, iii) the fear of not being perceived as neutral, but rather political. The study showed that solidarity and fairness in ECE can be about what we as teachers choose to examine in children's everyday lives and the choices and decisions made, for example when children in an ECE group walk past a beggar in the street. These choices and decisions involve pedagogical and ethical difficulties and at the same time there is a potential for ethical solidarity and justice. This is an example on *external solidarity* (outside the immediate sphere).

In Dixson-Declève et al.'s (2022) book *Earth for All: A Survival Guide for Hu-*

manity (Earth4All) a model for systems change in the Anthropocene is developed. The model is built on five extraordinary turnarounds designed to identify the transformations required for creating prosperity for all (the planet, the humans and the more-than humans). In their book, they discussed the transition to sustainability as involving significant reductions in the average human environmental footprint. The model leans on the knowledge of the planetary boundaries developed by Rockström et al. (2009) and the best available science with new thinking about social, political, environmental and economic systems change. Their five extraordinary turnarounds are:

1. Eliminate poverty: Reform the international financial systems and trade regulations to support low-income countries – reducing multidimensional poverty and enabling sustainable economic progress for all.
2. Reduce inequality: Governments should increase taxes (income and wealth) on the 10% richest in societies until they take less than 40% of national incomes.
3. Empowerment: Empower women and others disadvantaged in current systems to have equal access to education,

economic and social rights, power and assets by 2030 – stabilising the world’s population immediately and unleashing the potential of all.

4. Transform the food system: Transform the food system towards regenerative and sustainable agriculture and provide healthy diets for people without destroying the planet – halting biodiversity loss and protecting the global commons to ensure food for all without destroying nature and health.

5. Transform the energy system: Transform our inefficient fossil energy system to a clean and optimised energy system reaching a 50% cut in GHG emissions by 2030 and net zero carbon and biodiversity loss by 2050 – Ensuring sustainable energy for all. (Dixson-Declève et al., 2022, pp. 13–14).

So how can these turnarounds be linked to solidarity and ECE? The model links to the crisis that is upon us now, the climate crisis encompassing social, political and ecologic insecurity, instability, non-prosperity and inequity. The five turnarounds mentioned above can create change for a prosperous Earth, regenerated Nature and human wellbeing. So how can we take part in this change in early childhood? ECE teachers’ knowledge about these sustainability issues

and work with all aspects of sustainability in relation to human wellbeing, equality and democracy is crucial. Solidarity is about empathy and care for others as shared understandings and respect for other humans, all are intrinsically linked to the changes required for humanity.

In addition to solidarity with humans, solidarity with the planet is required for animals and plants, their future existence and rights to sustainable living. How can we in ECE support solidarity work, for example, with endangered animals, plants and physical environments? In recent years, it was reported that bee numbers have declined alarmingly in several countries. Bees are necessary for pollinating plants for human food production. Building insect hotels and following the work of bees is a transformative way to support bees that has become increasingly common in ECE services. A study by Weldemariam (2020) explored the pedagogical opportunities to engage young children in sustainability issues with a focus on bee death. The study showed that when the children were part of a bee theatre, their speech, actions and commitment to bees changed, leading to responses such as expressed feelings of joy and anxiety as well as actions of embodied intensity.

In addition, Rooney and Blaise (2003) have raised ethical engagement as a significant aspect in rethinking human relations with nature, specifically weather. They state this “involves more than learning *about* things, and rather requires a willingness to (un)think and (un)learn, to challenge the framings we (adults) have grown up with and take for granted, and to shift our orientation to learning *with* worlds” (p. 9). These research insights demonstrate that children in ECE settings need adults that are “teaching for sustainability [...] that emphasizes planetary ethic and degrowth” (Kopnina, 2020, p. 280). Further, Jickling (2017) argues for approaches to education that are disruptive:

As humans, we have the capacity to feel, empathize, love, and mourn loss ... We need to pay attention ... creating educational experiences that are held, felt, and disruptive might just be the basis for learning that is, indeed, transformational. (p. 28)

In this paper, I have discussed how educators in ECE can work with solidarity by discussing it from the perspective of internal institutional solidarity (in ECE, in the ECE group), external solidarity

(outside the immediate sphere) and solidarity across time and space (solidarity with future generations). Children are living in a world in change, a world that needs solidarity and sustainability, plus new ways of taking care of humans, more-than-humans and the planet Earth.

REFERENCES

- Berthelsen, D., Brownlee, J., & Boulton-Lewis, G. (2012). How do young children learn about solidarity? Perspectives of student teachers in early childhood education. In E. Johansson & D. Berthelsen (Eds.), *Spaces for solidarity and individualism in educational contexts* (pp. 115–128). (Gothenburg Studies in Educational Sciences 318). Acta Universitatis Gothoburgensis.
- Dolk, K. (2023). Att hantera tiggeri som samhällsfenomen i förskolan: Pedagogiska och etiska svårigheter kring ett känsligt och kontroversiellt ämne [Dealing with begging as a social phenomenon in preschool: Pedagogical and ethical difficulties around a sensitive and controversial subject]. *Pedagogisk forskning i Sverige*. On-line.
<https://open.lnu.se/index.php/PFS/article/view/3256>
- Dixson-Declève, S., Gaffney, O., Ghosh, J., Randers, J., Rockström, J. & Stoknes, P.E. (2022). *Earth for All: A Survival Guide for Humanity – Executive Summary*. Publications (earth4all.life)
- Einarsdóttir, J., Juutinen, J., Emilson, A., Ólafsdóttir, S. M., Zachrisen, B., & Meuser, S. (2022). Children’s perspectives about belonging in educational settings in five European countries. *European Early Childhood Education Research Journal*, 30(3), 330–343.
<https://doi.org/10.1080/1350293X.2022.2055099>
- Einarsdóttir, J., & Ólafsdóttir, S. M. (2021). Who belongs in preschool? Perspectives of children and educators. *Early Years*, 1–15.
<https://doi.org/10.1080/09575146.2021.1916891>
- Emilson, A., & Eek-Karlsson, L. (2022). Doing belonging in early childhood settings in Sweden, *Early Child Development and Care*, 192(14), 2234–2245.
<https://doi.org/10.1080/03004430.2021.1998021>
- 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.
- Jickling, B. (2017). Education revisited: Creating educational experiences that are held, felt and disruptive. In B. Jickling & S. Sterling (Eds.), *Post-sustainability and environmental education: Remaking education for the future* (pp. 15–30). Palgrave Macmillan.
- Johansson, E., & Puroila, A.-M. (2021). Research perspectives on the politics of belonging in early years education. *International Journal of Early Childhood*.
<https://doi.org/10.1007/s13158-021-00288-6>
- Kopnina, H. (2020). Education for the future? Critical evaluation of education for sustainable development goals. *The Journal of Environmental Education*, 51(4), 280–291.
- Puroila, A.-M., Emilson, A., Pálmadóttir, H., Piskur, B., & Tofteland, B. (2023). Educators’ interpretations of children’s belonging across borders: Thinking and talking with an image. *European Educational Research Journal*, 22(3), 325–346.
- Rockström, J., W. Steffen, K. Noone, Å. Persson, et al. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society* 14(2), 32.
- Rooney, T. & Blaise, M. (2023). *Rethinking environmental education in a climate change era: Weather learning in early childhood*. Routledge.
- Smith, A. B. (2012). Recognizing children as citizens: Can this enhance solidarity? In E. Johansson & D. Berthelsen (Eds.), *Spaces for solidarity and individualism in educational contexts* (pp. 15–31). (Gothenburg Studies in Educational Sciences 318). Acta Universitatis Gothoburgensis.
- Sommer, D., Pramling Samuelsson, I. & Hundeide, K. (2009). *Child perspectives and children’s perspectives in theory and practice*. Springer.
- The Swedish National Agency for Education (2019). *Curriculum for the preschool, Lpfö 98/18*. Swedish National Agency for Education.
- Weldemariam, K. (2020). “Becoming-with bees”: Generating affect and response-abilities with the dying bees in early childhood education. *Discourse: Studies in the Cultural Politics of Education*, 41(3), 391–406.
<https://doi.org/10.1080/01596306.2019.1607402>

Participants

Sule Alici, Kirsehir Ahi Evran University, Türkiye
Sylvia Christine Almeida, Monash University, Australia
Mandy Andrews, University of Plymouth, UK
Eva Ärlemalm-Hagsér, Mälardalens universitet, Sweden
Benita Berg, Mälardalens universitet, Sweden
Ester Cattuci, Mälardalens universitet, Sweden
Leen Dom, KdG University of Applied Sciences and Arts, Belgium
Sue Elliott, University of New England, Australia
Ingrid Engdahl, Stockholm University and OMEP Sweden
Elin Eriksen Ødegaard, Western Nor-

way University of Applied Sciences, Norway
Ann-Christin Furu, Åbo Akademi University, Finland
Tove del Gaiso, Mälardalens universitet, Sweden
Carie Green, South Dakota State University, USA
Debra Harwood, Brock University, Canada
Fran Hughes, University of New England, Australia
Deniz Kahriman-Pamuk, Mersin University, Türkiye
Magdaléna Kapuciánová, J. E. Purkyne University in Ústí nad Labem, Czech Republic
Karolína Kapuciánová, Materská škola Semínko, o.p.s., Czech Republic

Pernilla Kallberg, Mälardalens universitet, Sweden
Jayne Kinley, University of New England, Australia
Marie Kvarnryd, Mälardalens University, Sweden
Jonna Larsson, University of Gothenburg, Sweden
Ingrid Pramling Samuelsson, University of Gothenburg, Sweden
Muireann Ranta, South East Technological University, Ireland
Barbara Maria Sageidet, University of Stavanger, Norway
Lisa Sonter, Queensland Early Childhood Sustainability Network, Australia

Final words – the contribution of TND8

Since the inaugural TND meeting in 2010, the ECEfS research momentum and output has steadily increased and the breadth of countries represented expanded. With each successive TND, whether online or in person, past relationships were reignited and new ones forged, and TND8 was no different. The TND, as a research gathering, creates an inviting and open space for innovative thinking and respectful debates, insights

into varied cultural perspectives and collaborative action planning about where to next. Within the collated participant papers in this journal, we identify some of the gaps, issues and needs in ECEfS research. We argue these urgently require addressing at this critical juncture in the Earth's history, a history that will influence young children's futures forever.