

From Global ESD Policy to Practice: Research Progress and Paradigms

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Few remain unaware and unmoved by the challenges that we face in terms of Climate Change and the enormous threats to biodiversity. Authorities around the world are acutely aware of the costs of delaying radical action. By 2021 global natural catastrophes attributed to climate change had already cost more than \$100bn (Aon). Of course these costs are not evenly distributed; it is the Global South that is most significantly effected at first. To keep the global warming below 1.5C we were informed that would require carbon emissions to peak by 2025, and then shrink by 43% by 2030. We need to see an end to the age of fossil fuels, and this will affect every one of us. There is an immediate need to reduce our demand for energy in the areas of housing, transport and associated with their diets and nutrition. Its not going to be easy.

At a global level the United Nations introduced the 17 Sustainable Development Goals (SDGs). These SDGs confound each other at multiple levels, and together seek to transform what is widely recognised as a highly complex system or collection of systems that support life on our planet. Each SDG has its own role to play and SDG 4 for Education, and SDG 4.7 for Education for Sustainable Development in particular¹, is considered to be “key enabler of all the other SDGs” (UN General Assembly, 2017). SDG 4.7 explicitly refers to the contribution of early childhood education in this endeavour. Arguably, in the realisation of any policy objective, regardless of its context or nature, we must be clear in our definitions, and on the processes required to achieve them. We need to respond to the challenges of implementation, evaluating our progress for the purposes of monitor and moderation. All of this applies equally to the assessments that are increasingly to made on our progress with SDG 4.7 (McKenzie et al, 2015, Edwards et al, 2020).

By definition, Sustainable Development is concerned with ‘future generations’, and young children are therefore the main stakeholders, and they also have most at stake in achieving a more sustainable society:

“From long standing hazards to emerging ones, environmental factors are estimated to contribute up to 25% of death and disease globally reaching nearly 35% in some African regions. Children are most vulnerable to the impact of harmful conditions and account for 66% of the victims of environment-induced illnesses.”

(United Nations Environment Programme)

The provisions of the UN Convention on the Rights of the Child require us to recognise children as active, competent agents with the right to determine their own life and future. Children therefore have a Right to contribute towards sustainable citizenship from the start. It is also important to note that it is in early childhood that many of the most foundational values, attitudes and understandings that are relevant to sustainability are first put in place.

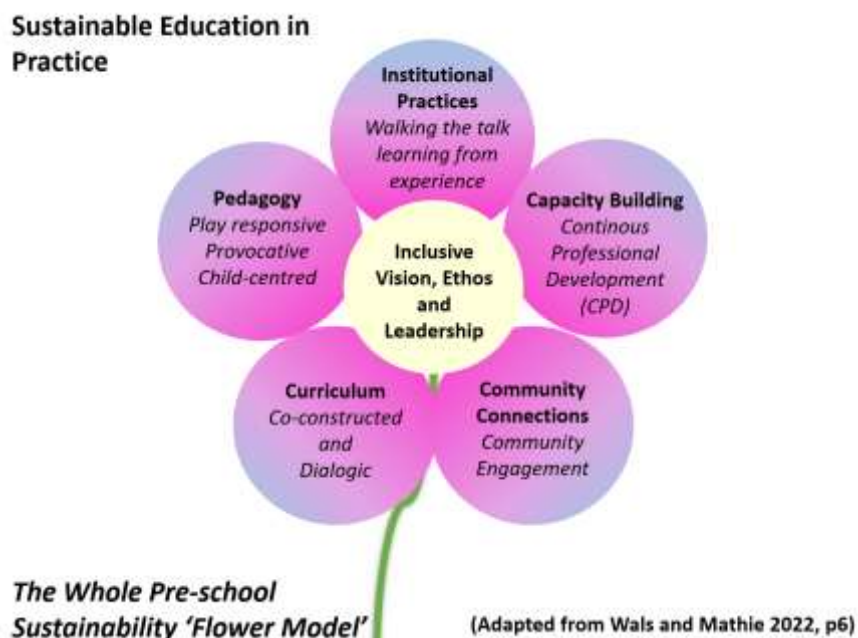
¹ SDG 4.7: **by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development.**

Much work has already been done in the development of appropriate preschool responses. The case for including Education for Sustainable Citizenship in Early Childhood is compelling and there is a general consensus that Education for Sustainable Citizenship should not be introduced as an additional 'curriculum bolt-on'².

Following the [Transforming Education Summit](#) in 2022, UNESCO launched [ESD-Net 2030](#), a new global network to advance Education for Sustainable Development (ESD) policy and implementation. UNESCO's [Greening Education Partnership](#) (GEP)³. The majority of UN nation states have joined the Partnership, expressing interest to contribute to at least 2 or more of the 4 pillars of action:

- Greening Schools to ensure a **whole-institution approach**, including greening teaching and learning, climate-ready school facilities and operations, inclusive governance, and community engagement
- Greening **Curriculum** to ensure relevant and quality of learning content and pedagogy on climate change education
- Greening **Teacher Training** and Education Systems' Capacities to strengthen policy, planning, finance, and implementation.
- Greening **Communities** to become climate resilient through **lifelong learning**.

UNESCO has promoted whole-institutional approaches, for achieving the Sustainable Development Goals through education emphasising this holistic perspective. We all need to 'walk the talk', and ensure that preschools set a good example, with our sustainability curriculum Celebrating the sustainable management of preschool resources, premises and procurement. Mathie and Wals (2022) flower model (Fig. 1) captures the various dimensions of whole-school sustainability.



² To be addressed in EECERA Symposium B23 R309

³ <https://www.unesco.org/en/sustainable-development/education/greening-future>

But I want to argue here that our acknowledgement of the importance of Education for Sustainable Citizenship has wider implications for everything that we are all doing in ECEC research, scholarship, in policy making, and practice:

- *Sustainable Development has shown us the folly of relying upon specialist disciplinary expertise addressing the challenges of developing sustainable futures.*
- *Education for Sustainable Development has from the start recognized the importance of applying multi-disciplinary approaches.*
- *Recognition of the complex systemic challenges that we are facing in Sustainable Development, requires the further integration of early childhood services, and promotion in the research community of Transdisciplinarity.*

So what do we mean by transdisciplinarity? The term was first coined by Piaget in 1972 when he was invited by the OECD to advise on Interdisciplinarity, Problems and Teaching in Universities. You will all be familiar with the story of the Blind Men and the Elephant. I for one wasn't aware until recently that the parable has such a long history, apparently it was originally included in the oral teachings of Buddhism, and came to be included in some of the earliest texts from around 500 BCE. The parable is all about the limitations of perception, in many early accounts the individuals come to blows insisting upon their particular perceptions. If we think of these individuals as 'Scientists' rather than blind, then we can imagine some studying the Elephant with X-ray equipment and microscopes and seeing something entirely different from those studying herds at a distance with telescopes and binoculars. There is a sense in which the instruments that we use, whether they be laboratory instruments or the theoretical frameworks, paradigmatic assumptions, or standardized instruments of more qualitative research - these instruments always focus our attention upon particular aspects of the subject under study and if we think of it in terms of our own research in ECEC (remember the elephant in the room) we might consider all of us studying our subject through differently filtered or refractive spectacles – some might even view the elephants metaphorically through 'rose tinted spectacles'. Heisenberg, the theoretical Physist used to tell the story of Six blind elephants who were discussing what men were like. After arguing a while they decided to find one and find out what it was like by direct experience. The first blind elephant felt the man and declared, '*Men are flat.*' After the other blind elephants felt the man, they all agreed.... The important point he was making here was – that the instruments that we use to study our subject always put constraints on what we will find...

The answer to the problems identified here may be considered Transdisciplinarity – we need to consider all of the nuanced perspectives and identify what may be learned *from all* of the evidence that is available.

This was the conclusion that Mathais Urban also came to in a recent paper. Urban argues for a transdisciplinary transformation of ECEC scholarship. He also suggests that at a policy level the complex systemic nature of ECEC is already recognised. Urban argues that we must Face up to a profoundly changed global context of early childhood education in recognition of:

- 1. The recognition of early childhood education and care as a complex system** (in particular he argues that the Covid Pandemic identified the dependence of some children on

preschool provisions that could no longer be taken for granted, also the dependence of families and employers including those in essential services.

2. **Rising inequality within as well as between countries (he refers to this as a blurring of the boundaries between the Global North and south)**

3. **The apparent failure of the dominant theoretical and disciplinary traditions of ECEC to rise to the challenges** (Urban is especially critical of perspectives of 'developmental psychology' and 'human capital economics' – but I think we should extend his critique further).

Urban is especially critical of perspectives of 'developmental psychology' and 'human capital economics' – but I think we should extend his critique much further... But now some of you will be concerned that a barrier to all of this maybe paradigm incommensurability. How can we work together across disciplines or perspectives when *there no common ground for rational comparison!*

Are our Research Paradigms Incommensurate?

It was Thomas Khun who first coined the term paradigm in the philosophy of science. Khun's scholarship was concerned especially with the axiomatic physical sciences, and it is notable that he was extremely sceptical about any relevance of the term to the more interpretative social sciences that were unable to sustain any extended period of 'normal' science.

In any event, Fuch's (2001) *Sociology of Cultural Networks* serves to 'dissolves' (as opposed to solve) the apparent problem of paradigmatic incommensurability (along with insider and outsider perspectives) by showing that essentialisation may be seen as a response of tightly connected social networks (e.g. research communities) to any competition or threat to their foundations. In such cases he argues that where they act to; *"isolate and shelter [their] basic certainties"* (p16-17). In these circumstances:

"Each network will observe the others core as a contingent construct, not as a basic natural necessity. They will behave as constructivists about the others core practices, and as realists about their own. They will debunk each others core as being composed of 'ideologies' – beliefs and ideas suspiciously unaware or deceitful of their 'true' motives and interests – while asserting that their own ideas and beliefs are just right and righteous, and that they capture the empirical and moral order of the world as it really is, without any construction going on at all" (op cit p34).

The lesson to be learnt from considering these apparent 'paradigm' struggles in this way is, as Fuch's suggests, to recognise that:

"...the truth of a science is its truth, not the truth of science as such. A science has only the foundations it builds for itself, and it has those until further notice, until it changes these foundations" (op cit p74).

Fuch’s overall argument is that we should therefore respond to the challenges of anti-foundationalism and scepticism with a sociology of *foundations* that *explains* them (or their absence):

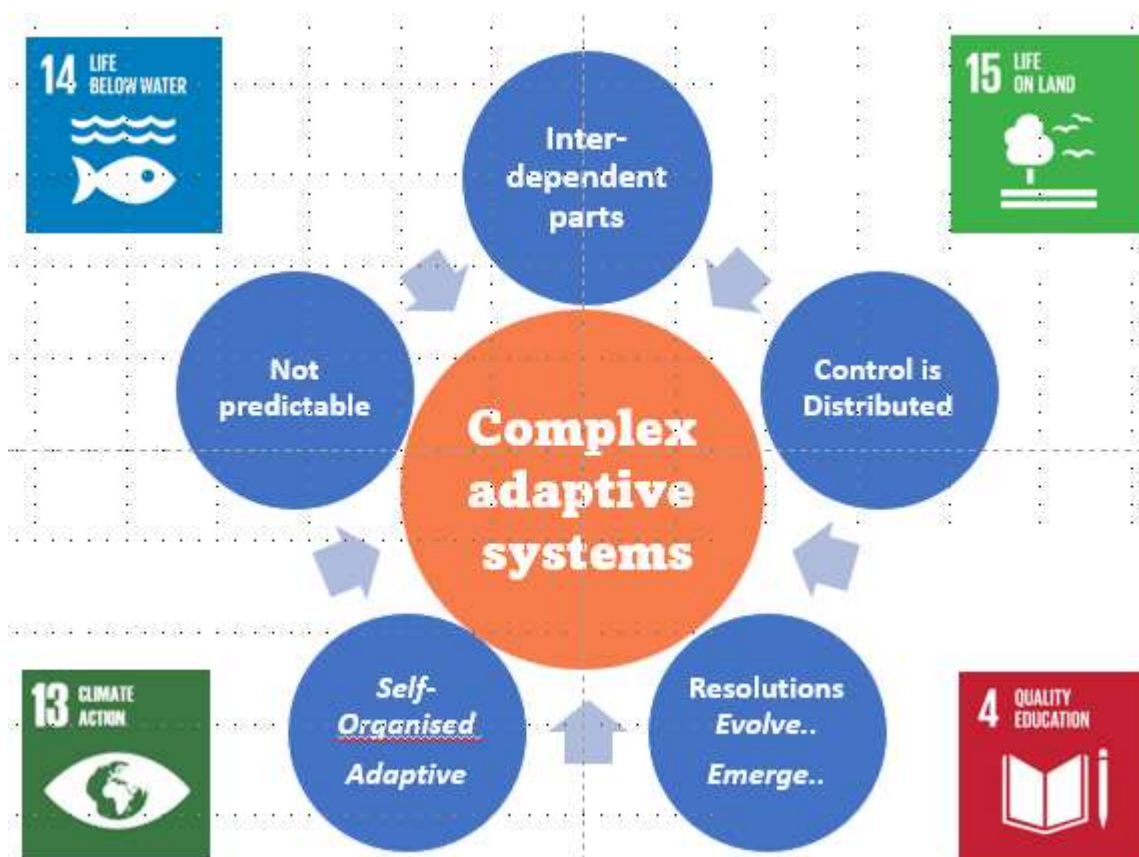
“In this approach antifoundationalism and scepticism signal a local fragmentation in social solidarity within weak’ cultures, not a global and philosophical crisis of representation” (op cit, p74)

As Fuch’s (2001) points out, ‘paradigm incommensurability’ involves a good deal more than simply misunderstanding, and is more the **result** than any cause of a breakdown in communication. Also, the good news is that:

“...incommensurability is not opposed to communication, but actually encourages and energises it, by irritating the background certainties and institutional invisibilities taken for granted in each of the interacting cultures” (op cit p93)

From this perspective, efforts should be made to reduce fragmentation through improved communication and collaboration.

The ‘Wicked Problems’ symptomatic of complex self-organising systems



Urban’s paper cites a 2021 Organisation for Economic Co-operation and Development (OECD) diagnosis of a widespread systemic failures:

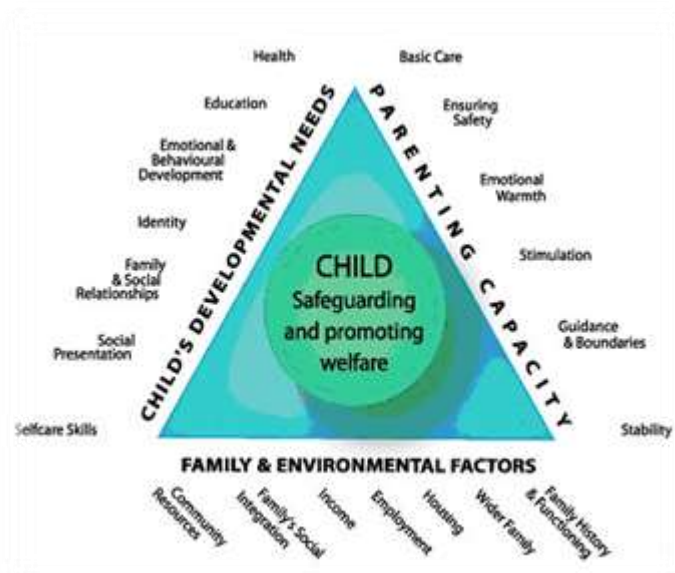
“Discontent is rising around the world, reflecting dysfunctions and injustices that have emerged in economic, social and political systems. It is also a response to the damage humankind is inflicting on the world’s natural systems and thus, inevitably, upon itself. The COVID-19 pandemic [...] has exposed these defects to devastating effect. (OECD 2021, p9)”.

As Urban notes, the OECD report doesn’t conclude with and simplistic suggestions for greater funding, it argues that the way forward must be to encourage greater ‘active participation of citizens in new forms of collective action at the local, national and international level’(ibid).

This is a well established principle applied in dealing with a wide range of similarly ‘Wicked Problems’: To engage all stakeholders in their resolution. This, of course, requires dialogue between the various users at the service delivery level, and it also requires dialogue between those who serve to provide academic support to these communities of practice.

Wicked Problems⁴, like those identified in the SDGs are the problems of complex self organising adaptive systems, their effects are often unpredictable, as they are both internally and externally dependent, on other complex systems. Control where it exists, and/or identified, is distributed and their progress, in terms of resolution or otherwise tend to evolve or emerge over time. The learning, development, health and wellbeing of every individual child is also determined by a complex adaptive system and, at least arguably, this is most clearly demonstrated in the case of children with special educational needs and disabilities (SEND). The clearest symbolic acknowledgement of this can be seen in The *Common Assessment Framework* that was originally developed as a central component of the UK ‘Every Child Matters’ policy, and still has a life in many local authority ‘*Early Help Assessments*’. The CAF identifies many of the most significant ecological factors that contribute towards every individual child’s learning, development, health and wellbeing.

The Common Assessment framework (CAF)



⁴ <https://transitiondesignseminarcmu.net/wp-content/uploads/2016/12/Wicked-problems-flower.png>

Urban (2022) calls for a new emphasis on comparative studies that:

“...embrace the complexities, likely puzzling findings, and contradictions of our field... and place them at the centre of comparative research that aims at learning with each other’s cases, be they preschools, countries, or policy contexts”.

Increased dialogue at the level of practice IS certainly an important way forward. Our recent pandemic experience has highlighted many of the problems that we have in reconciling the priorities, knowledge and understanding of policy makers with the public, and with those of the research communities. In education, as in every other field of concern, the research community has a critical role to play in its engagement with policy and public understandings. There is much to learn from the challenges of our recent Covid crisis, and efforts need to be made to improve all of our communicative and collaborative practices and processes in the face of climate change and the threats to biodiversity. In the UK and in many other countries Government’s relied on briefings provided by multi-disciplinary groups of scientific advisors in the UK it was SAGE (the Scientific Advisory Group for Emergencies), but another group was soon informally convened as ‘Independent SAGE’. We might well wonder how the the more general medical and scientific associations saw their own role in all of this.

Many of us have been concerned about the growing public scepticism regarding research more generally. In early childhood education we have already seen misinformation, and conspiracies being peddled through social media and the press to frustrate efforts to promote gender equality and anti-racism. Some of them have been really dangerous such as the rejection of MMR vaccines and inoculation against Measles. Climate change scepticism has largely progressed from outright rejection to opposition towards particular policy contexts such as urban air pollution, the use of petroleum fuel, to the scapegoating of migrants as an unnecessary economic burden, and the scapegoating of other nations who are accused of failing to meet their own carbon targets. These are both crucial concerns of significance to climate change education and the achievement of the UN Sustainable Development Goals. In the context of many environmental concerns, adaptations and mitigation efforts, fake news green-washing, challenges to ‘political correctness’ and so-called ‘woke’ thinking are also increasingly being circulated. A national newspaper headline this week reported: “Sixty children as young as Four are sent home from school every day for racism, says study”. The item featured in BBC news bulletins throughout the day without clarifying that the report had actually identified a total of seven 4 year olds who were suspended nationally in the previous year - presumably until the parents attended the school to explain where the child had learnt such things and to pledge their support in dealing with the problem. As a research community we need to stand in solidarity against these challenges and provide a strong independent voice, presenting ourselves as trustworthy ‘honest brokers’.

An independent review of science and public trust within the policymaking system was commissioned by the UK government in 2022, and this was carried out by a British Academy team led by Professor Christina Boswell. If research is inform policymaking then it is important that it doesn’t lose its authoritative status, the report argues that public scepticism is often the result a lack of transparency regarding the strengths and limitations of evidence presented and the polarisation of different ‘scientific’ positions.

If we explicitly value and bring together our different disciplinary communities we can help ensure that all of our scientific findings have the potential to contribute. As the 2024 British Academy report suggests, an integrated evidence base across scientific disciplines can be more robust and strengthen trust in science-for-policy (p8).

Policymakers, researchers and knowledge brokers should deepen their engagement with different publics to build trust in science. This should be done in a way that preserves the integrity and independence of the scientific process. Clearer principles should be developed to ensure transparency and accountability in both science-policy and science-public engagement.

“The wide ranging literature on the nature of evidence which can be invoked in policymaking does suggest that where publics are able to engage with and acknowledge diverse, plural and conditional types of evidence, trust in science-for-policymaking is enhanced.” (The British Academy, 2024, p20)

The report also promotes the idea of involving the public in research through Citizen Science which may be considered a largely untapped resource in the development of early childhood education for sustainability. One recent project involved parent and children carrying out beach plastic surveys and then sending their findings in to a University Department for macro analysis. The *Royal Society for the Protection of Birds* (RSPB) also has an extremely successful annual Garden Bird Watch that many children engage in with their parents.

Conclusions - What can we do about it?

These are well established principles applied in dealing with a wide range of similarly ‘Wicked Problems’:

- to engage all stakeholders in their resolution, this requires dialogue between the various users at the service delivery level, and it also requires dialogue between those who serve to provide academic support to these communities of practice.
- to engage as a research community ever more closely with policy agendas, providing constructive critique and alternative voices.

Another approach, identified in a quotation from Douglas Adams (2004), celebrated author of the *Hitchhikers Guide to the Galaxy*, somehow found its way (despite its lack of application) into the 2004 National Curriculum Handbook for Secondary Teachers in England published by the Department for Education (DfE) and Qualifications and Curriculum Authority (QCA) in 2004:

“With scientific method, we took things apart to see how they work. Now with computers we can put things back together to see how they work, by modelling complex, interrelated processes, even life itself. This is a new age of discovery, and ICT is the gateway”.

AI researchers have been teaching AI to learn as children learn (Hutson, 2018), and AI is increasingly providing a laboratory test bed for the development of cognitive science and neuroscience.

Transdisciplinary scholarship offers:

- A constructive alternative to the acceptance (or mere critique) of alternative academic perspectives.
- The possibility of presenting research findings in a manner in which the nuanced contexts and standpoints of alternative perspectives may be explicitly identified for consideration.
- The possibility of constructive and respectful dialogue with the public on the issues that concern them.

Of course, transdisciplinarity demands mutual respect

- Collaboration...requires us at times to suspend individual questions of belief, and to compromise.
- ...you don't have to be a 'realist' to *treat* some phenomenon as real; you only have to accept that enough people *live/experience it as real 'to them'* - that it warrants your respect and engagement.
- Philosophical foundations for Transdisciplinarity may also be found in 'Scientific Realism' and 'Critical Realism' (Bhaskar 2009, 2010, 2013)

In the UK, the Children Act 2004 promoted integrated working, such as multi-agency Children's Trusts and Directors of Children's Services (DCSs). The Children's Workforce Development Council (CWDC), was established in 2005 to take this forward. A significant contribution to the development of these policies came from evaluations of the UK combined service *Early Excellence Centres* that included significantly those of Bertram and Pascal (2002). In the UK they showed the very first strong evidence of the benefits of integrated working.

In April this year the Institute of Fiscal Studies published a new Report on the short-and medium term impacts of Sure Start on Educational Outcomes (Carneiro et al, 2024) They found that:

Access to a combined service Sure Start centre between the ages of 0 and 5 significantly improved the educational achievement of children, with benefits lasting at least until GCSEs (age 16). The effects were six times higher for those eligible for free school meals than for those not eligible for them. The study reports on significantly improved outcomes for children recorded as having special educational needs or disability (SEND), the particular contribution of parental outreach. The study also provides evidence of the cost effective benefits of integration

In 2009 I was commissioned by the *Centre for Excellence and Outcomes in Children and Young People's Services* (C4EO) and the Department for Education to provide a research Review of the Evidence on Integrated Working. One of the findings that was especially unpopular with the DfE at that time was the finding from many of the studies that more training was required across the services to develop a shared philosophy and vision for ECEC. *There was a clearly articulated need for: "A clear vision of service integration, to be disseminated and promoted to staff at all levels. If the integration of services is to be achieved, then there needs to be more "integrated thinking" (ibid).*

Education for Sustainable Citizenship has the potential of offering an holistic, transdisciplinary and transformative perspective that can support the full integration and future development of early childhood and family services.



Post Script

The *National Endowment for Science Technology and the Arts* (NESTA), in partnership with the ETHOS Foundation is currently engaged in an initiative that aims to leverage the early-years sector’s collective intelligence to inform a long-term vision for joined-up family support services, and the optimal design and governance of such a system⁵. The title of the project is “A New Era of Integration in the early Years”. The project will take a deliberative and collaborative approach to creating an effective central policy framework for integrated early-years support systems. It begins with:

1. An open call for evidence - Inviting submissions from stakeholders on the essential preconditions of good integrated early-years delivery.
2. A rapid literature review - This will synthesise findings from existing UK policy documents, evaluations and research into integrated early-years delivery.

⁵ <https://www.nesta.org.uk/project/a-new-era-of-integration-in-the-early-years/>

3. A Delphi-inspired survey - A two-stage process in which sector experts are first surveyed to establish the range of opinion on several key parameters of integrated early-years delivery. In a second survey, this range of opinions is considered by the same participants to explore the potential for consensus.
4. A series of workshops and roundtable discussions - Designed to reflect on the findings from the previous three stages and identify a consensus position.

The call for evidence closes on Friday 27 September 2024 at 23:59pm – Their overarching question concerns the essential ingredients of a good system of integrated family support during pregnancy and the early years.

References

- Adams, D. (2004) Quotation - included in the *National Curriculum Handbook for Secondary Teachers in England published by the Department for Education (DfE) and Qualifications and Curriculum Authority (QCA)*
- Bhaskar, R. (2009). *Scientific realism and human emancipation*. Routledge.
- Bhaskar, R. (2010). Contexts of interdisciplinarity: Interdisciplinarity and climate change. In *Interdisciplinarity and climate change* (pp. 15-38). Routledge.
- Bhaskar, R., Collier, A., Lawson, T., & Norrie, A. (1998). Critical realism. In *Proceedings of the standing conference on realism and human sciences, Bristol, UK* (Vol. 4, pp. 1-0).
- Bertram, T., Pascal, C., et al (2002). *Early Excellence Centre Pilot Programme: DfEE Publications*
- Edwards, B., Sustarsic, M., Chiba, M., McCormick, M., Goo, M., & Perriton, S. (2020). Achieving and monitoring education for sustainable development and global citizenship: A systematic review of the literature. *Sustainability*, 12(4), 1–57. <https://doi.org/10.3390/su12041383>
- Fuchs, S. (1999). *Against Essentialism*. Chicago: University of Chicago Press
- Harding, S. (1993) "Rethinking Standpoint Epistemology: What is 'Strong Objectivity'?" in *Feminist Epistemologies*, ed. Linda Alcoff and Elizabeth Potter, NY and London: Routledge, 57.
- Hunt, S. D. (1994). A Realist Theory of Empirical Testing Resolving the Theory-ladenness/objectivity debate. *Philosophy of the Social Sciences*, 24(2), 133-158.
- Hutson, M. (2018). How researchers are teaching AI to learn like a child. *Science*, 10.1126/science.aau2576.
- Kuhn, T. (1970) *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press
- Kuhn, T. (1991) "The Natural and the Human Sciences", in Hiley, D., Bohman, J., and Shusterman, R. (Eds.) *The Interpretative Turn: Philosophy, Science, Culture*, Ithaca: Cornell University Press pp 17-24.
- Lashchuk, E. (1992). Contingent scientific realism and instrumentalism: Beyond Rorty's "The end of philosophy" and Fine's "Natural ontological attitude". *Filosofs' ka y Sotsyolohychna Dumka (Philosophical and Sociological Thought)*, 11, 12, 57-69.
- Mathie, R. Wals, A (2022) *Whole School Approaches to Sustainability: Exemplary Practices From Around the World*, Wageningen University, Education & Learning Sciences, <https://doi.org/10.18174/572267>.
- McKenzie, M., Bieler, A., & McNeil, R. (2015). Education policy mobility: Reimagining sustainability in neoliberal times. *Environmental Education Research*, 21(3), 319–337.

- Piaget J. (1972) The epistemology of interdisciplinary relationships. In Briggs A et al., (Eds) *Interdisciplinarity, Problems of Teaching and Research in Universities*, Paris: OECD; pp. 127–139.
- Pring, R. (2000) The ‘false dualism’ of educational research, *Journal of Philosophy of Education*, 34(2), 247–260.
- Siraj-Blatchford, J. (2009) [*Improving development outcomes for children through effective practice in integrating early years’ services*](#). Centre for Excellence and Outcomes in Children and Young People’s Services (C4EO)/DfE
- Urban, M. (2022) Scholarship in times of crisis: towards a trans-discipline of early childhood, [*Comparative Education*](#), Vol. 58, No. 3