



CELEBRATING



RESEARCHING EDUCATION BULLETIN
ANNIVERSARY EDITION

OCTOBER 2024
VOLUME 2

Stephen Day, Steph Thomson,
Angela Jaap, and Stephen J. McKinney

Editorial

This edition of *Researching Education Bulletin* forms the second part of the two-part series commissioned to celebrate the 50th Anniversary of the Scottish Educational Research Association (SERA). Both these editions have been a collaborative effort between SERA networks and external stakeholders in Scottish education. In this edition, we have contributions from the General Teaching Council for Scotland (GTCS), Education Scotland, Scottish Government, Learning for Sustainability Scotland and the Anti-racism in Initial Teacher Education Network. These sit alongside articles from the Theory and Philosophy, Early Career Researchers, Health and Wellbeing, and Early Years SERA networks.

This collection of articles acts as a stimulus for thinking about some of the important educational questions facing Scottish Education today and how collaborative and innovative ways of thinking about these questions, and their associated challenges, can open new ways of working. Since its inception, SERA has operated as a space for educational researchers from Scotland and beyond to think, reflect, discuss and debate educationally relevant topics and hopefully learn together. SERA is an organisation that can, and does, draw people together from different spheres of Scottish education.

The edition invites us to consider how Scottish education might adapt and respond to challenges in the future and learn from other contexts - whether these are geographical or temporal. Several of the papers explore the benefits of harnessing diverse perspectives and speak to the need to empower individuals in the education system, whether teachers or researchers, so that they may contribute to a strong and healthy sector that is fit for the challenges to come.

The edition opens with a reflection from past SERA president (2011-2013), George Head, on the role of SERA in the current educational landscape and provides a short historical account of SERA over its' 50 years of being. In his reflections, George Head poses the question "*Does Scotland still need SERA?*" and argues that the work of SERA is still needed in this current, complex educational climate.

In her piece, Pauline Stephen from the General Teaching Council for Scotland (GTCS), reflects on the role of the regulator in what is its' 60th year of operation. Pauline outlines the ways that the GTCS exercises their responsibility for the teaching profession and sets out how they, as a Professional Regulatory Standards Body (PRSB): perform their statutory function under the law for maintaining and framing the professional standards; accredit and quality-assess teacher education qualifications; and how they engage with partners across the education system.

The co-convenors of the SERA Ethics in Education Network, Alison Mitchell and Aileen Kennedy, explore broader issues of ethics and education in their paper which details the formation of this new SERA network and the issues to which it will turn its attention. They take a multi-faceted look at the whole education landscape and suggest that a network such as theirs, which facilitates collaboration between researchers and practitioners can start to explore the ethical issues affecting teachers, school leaders and researchers as well as responding to the ethical dimensions of government policy.

Lise McCafferty, from Education Scotland's Professional Learning and Leadership Team, focuses on Scotland's National Model of Professional Learning and outlines the approach taken by Education Scotland to professional learning. By focussing on the nature of teachers' jobs post-Covid, she outlines the drive for more professional learning to take place

online so that teachers can engage with it more effectively with such programmes -facilitating a balance between the demands of ‘the job’ and the constraints placed on budgets in a time of austerity.

In their piece on the SERA Early Career Researcher (ECR) network, Hermione Xin Miao and Chantelle Boyle reflect on who early career researchers in education research are and what kinds of support they would benefit from to help them transition post-PhD into the wider educational research community. Their piece reports on the development of SERA’s ECR community and how digital tools have created spaces and mechanisms for ECRs to connect with one another and more established researchers.

In the next paper, by the Health and Wellbeing Network, Shirley Gray and Nicola Carse describe the networks involvement with a small-scale collaborative research project with the UK Physical Education Collaborative which explores the modern PE curriculum across the four nations of the UK. They discuss the cross-border professional learning and collaboration that took place in the project – reminding us that research can open up places and spaces for dialogue, as well as generating useful findings.

Keith Dryburgh and Emily Webb, from the Learning Analysis Directorate of the Scottish Government, then discuss the Programme for International Student Assessment (PISA) 2022 and how results from this and other large-scale comparative assessment exercises can help us understand the Scottish education system. Their article explains how PISA works - taking readers behind the headline measures and discussing the potential for researchers to harness the data PISA generates for secondary analysis.

Nicola Robertson, from the SERA Theory and Philosophy network, gives a different way of understanding educational challenges in her piece which introduces the idea of pedagogical reduction and argues that this philosophical representation of education, far from being an abstraction, can be used by practitioners to understand something deeper about the classroom process they are engaged in.

In the next paper, Lizzie Rushton outlines, in broad terms, the case for curriculum making in the context of Learning for Sustainability (LfS). She explores its’ importance within the current Scottish educational policy context and describes how Learning for Sustainability, as an umbrella term, provides a way of thinking about a wide range of educational challenges – both social and environmental. Her paper discusses some possibilities for future/ongoing research in LfS and ways in which beginning teachers might further develop their identities as teachers by engaging with the different aspects of LfS.

To close the issue, Liz Latto gives a flavour of the work done within the SERA Early Years network with a piece exploring relational perspectives in Early Years. Drawing on Post-Humanist, Feminist and Materialist theoretical perspectives, she questions the prevailing discourse that positions the child(ren) as past, present and future consumers and repositions Early Years as a site where practitioners can focus instead on the relational aspects of practice and the connections between people, places and contexts.

SERA @ 50: Does Scotland still need SERA?**George Head, University of Glasgow*****Overview***

The purpose of this paper is to outline the progress of SERA over the last twenty years or so. Enduring features such as conferences, membership and the place of SERA on the national and international stages are addressed. In addition, the challenges of the 21st century including the impact of changes to teacher education in Scotland, advances in technology, particularly in communications, and, of course, how SERA tackled the effects of the Covid-19 pandemic are given attention.

Conferences

Conferences in the early 2000s continued to be held annually in a hotel in Perth. Conferences were normally held over two and a half days from Thursday to Saturday. There was still a strong schools' orientation, and the Saturday morning sessions were exclusively for teachers.

By the turn of the new century and millennium, SERA was one of several associations available to education academics in Scotland. Conferences organised by the British Educational Research Association (BERA) and the European Educational Research Association (EERA) were more attractive to Scottish academics. In addition, anecdotally, BERA and EERA were considered more academically rigorous, more prestigious and more research focused than SERA and the SERA conference.

By this time, Scotland's Colleges of Education which had the sole purpose of Teacher Training, had become part of university faculties which heralded a shift in focus from Teacher Training to Teacher Education. At this point, SERA was emerging from a similar focus on schools to becoming the wider academic association it is today whilst maintaining its relevance for teachers, schools, and children and young people.

Other, non-academic issues also impacted on SERA. For example, pressure to ensure that buildings (including those used for conferences) were accessible to people with disabilities. As a consequence of societal changes and a desire to raise SERA's academic profile, the SERA executive took a decision to house conferences in universities. Thus, in 2012, the SERA Conference was held at the University of the West of Scotland. Locating the annual conference within universities continues to be the case and SERA acknowledges the support of Scotland's universities in housing the annual conference, encouraging academics and students to attend, and providing staff to participate as members of the SERA Executive.

SERA, Technology and Covid-19

Throughout the last 20 years, SERA has enthusiastically and successfully engaged with emerging technology, setting up its own website and YouTube channel. Thus, for example, looking at the list of conferences below, the 2020 and 2021 ‘venues’ stand out. In 2020, the Covid pandemic reached Scotland and a series of restrictions on meeting others was imposed by both the UK and Scottish governments. Undeterred, SERA, then under the presidential guidance of Nicola Carse, made full use of the latest communications technology and constructed on-line conferences for both these years.

Moreover, in addition to the conferences, SERA launched a series of on-line seminars under the banner of ‘SERA Connects.’ There were 10 SERA Connects events held in 2020, with a further 7 in 2021 which provided academic communication and research dissemination throughout the more difficult years of the pandemic. Details of seminar topics and presenters are available on the SERA website and the seminars themselves can be found on the SERA YouTube channel.

Membership

An encouraging feature of the initial SERA meetings was the extent of the membership, with 156 members recorded by January 1975 rising to 211 by 1979. Membership has been a continuous area of focus for the SERA Executive with various initiatives undertaken to attract more members. The benefits of SERA membership including free issues of Scottish Educational Review and a reduced conference fee have been cited frequently in membership campaigns.

SERA International

Membership of SERA automatically confers membership of the European Educational Research Association (EERA) and the World Educational Research Association (WERA) on SERA members. From the outset of EERA and WERA, the Scottish association has been entitled to a place on the Council of both organisations. During the last twenty years, SERA has become increasingly active within EERA and WERA, undertaking roles beyond Council representative, thereby enhancing the profile of SERA internationally and at home. These roles include Senior mentor for the EERA Emerging Researchers Group, chairing the EERA subgroup on Ethics in research and lead author and editor of a special issue of the European Educational Research Journal setting out EERA’s deliberations on research ethics. In addition, SERA representatives on EERA Council, were invited to develop and offer a seminar on writing and publishing which has since been presented in several European countries.

Within WERA, SERA developed a similar profile which contributed to WERA agreeing to bring their Annual Focal Meeting to the SERA conference in Edinburgh in 2014. This was particularly apt as at that time SERA played a significant role in establishing WERA's International Research Networks. SERA has also been prominent in other WERA focal meetings such as in USA, Hong Kong, Japan and Germany.

Through contacts made in the course of engagement with the wider education research community SERA was able to strengthen relationships with organisations closer to home, namely, the British Educational Research Association (BERA), the Educational Studies Association of Ireland (ESAI) and the Nordic Educational Research Association (NERA). At this stage, SERA has shared conference delegation and presentation with each of these associations.

Special mention must also be made of the group of colleagues from Iceland who, under the leadership of Professor Allyson McDonald, have been continuous attendees and presenters at SERA conference. SERA has reciprocated by attending Iceland's educational research conference in Reykjavik. This relationship has resulted in SERA members acting as referees and external examiners for academic activities in Iceland.

SERA notable contributors

Over the past two decades, SERA and its annual conference have been well supported by the Scottish academic and wider education community. Of particular note, have been the enduring contributions of Professor Aline-Wendy Dunlop, Professor Walter Humes, Professor Tom Bryce and Professor Stephen McKinney. Their sustained contributions to SERA conferences and membership of the SERA Executive have ensured the high quality of research and theory that has enhanced the status and standing of SERA.

Similarly, SERA is thankful for the longstanding dedication of Executive members John Queen (variously treasurer and business manager for example), Michael Guy (Further Education representative and co-opted Executive member), and Ian Matheson (General Teaching Council of Scotland and co-opted member). Their contribution to the day-to-day organisation and running of the annual conference is widely appreciated and noted by conference attendees.

SERA Future: Does Scotland still need SERA?

At the end of his paper marking 10 years of SERA, Stanley Nisbet concluded that Scotland needed SERA. Today, that need is possibly greater than ever would be my immediate response. At the inaugural 1973 meeting, the founding group considered the need for wide dissemination of educational research and the need for greater communication among and beyond the Scottish education community. The SERA Executive has taken a significant initiative in engaging with

developing innovative communications technologies. SERA Connects has enhanced the capability for dissemination, discussion and debate concerning educational research in Scotland and beyond. SERA’s critical engagement with modern technologies as they emerge, will provide an essential platform for Scotland’s education communities to explore innovative ideas, The place of Artificial Intelligence in educational research might be a typical example.

Moreover, SERA’s representation on international research associations such as EERA and WERA ensures that Scottish research and ideas are at the forefront of educational issues in these wider contexts. Similarly, educational initiatives that arise in other countries and contexts are made known to SERA where they may inform discussion and debate around Scottish education.

Perhaps most importantly, however, Scotland still needs SERA firstly as a context for the interrogation of research, theory and policy. Vitally, Scotland still needs SERA as the context in which Scottish educational research can be presented for supportive critical consideration thereby ensuring the continued development of quality engagement with Scottish education. SERA remains a small association that makes a modest but valuable contribution to educational research at home, within Britain and on the wider European and global communities. Scotland still needs SERA!

Appendix: Conference years, venues and presiding SERA Presidents since the millennium

Year	Conference venue	President	Home Intuition
2002	George Hotel, Perth	Donald Christie	University of Strathclyde
2003	George Hotel, Perth	Donald Christie	University of Strathclyde
2004	George Hotel, Perth	Fran Payne	University of Aberdeen
2005	George Hotel, Perth	Fran Payne	University of Aberdeen
2006	George Hotel, Perth	Ian Menter	University of Glasgow
2007	George Hotel, Perth	Ian Menter	University of Glasgow
2008	George Hotel, Perth	Lorna Hamilton	University of Edinburgh
2009	George Hotel, Perth	Lorna Hamilton	University of Edinburgh
2010	The Stirling Highland Hotel	Ross Deuchar	University of Strathclyde
2011	The Stirling Highland Hotel	Ross Deuchar	University of Strathclyde
2012	University of the West of Scotland	George Head	University of Glasgow
2013	University of Glasgow	George Head	University of Glasgow
2014	University of Edinburgh	Laura Colucci-Gray	University of Aberdeen
2015	University of Aberdeen	Laura Colucci-Gray	University of Aberdeen
2016	University of Dundee	Stephen McKinney	University of Glasgow

2017	University of the West of Scotland	Stephen McKinney	University of Glasgow
2018	University of Glasgow	Stephen Day	University of the West of Scotland
2019	University of Edinburgh	Stephen Day	University of the West of Scotland
2020	on-line (due to Covid-19)	Nicola Carse	University of Edinburgh
2021	on-line (due to Covid-19)	Nicola Carse	University of Edinburgh
2022	University of the West of Scotland	Angela Jaap	Royal Conservatoire of Scotland
2023	Queen Margaret University	Angela Jaap	Royal Conservatoire of Scotland/University of Glasgow
2024	University of Dundee	Julie McAdam	University of Glasgow

The General Teaching Council for Scotland 2024: Back to the Future? **Pauline Stephen, General Teaching Council for Scotland.**

As SERA celebrates a 50th anniversary, The General Teaching Council for Scotland (GTC Scotland) is preparing for our 60th birthday in 2025. Six decades ago, the birth of what is believed to be the oldest teaching council in the world came about as a result of a group of teachers standing up for teaching's professional status; teachers wanted similar control over their own profession to that of equivalent bodies in medicine and accountancy.

Described as a 'difficult birth' (Matheson, 2015, p.6), the genesis of the Council crystallised from teacher strikes and a crisis into which teaching had been sliding since the 1940s. Relationships between government and the teaching profession had deteriorated with the EIS calling its first strike in its 114 years existence, on the back of a consultation about qualification requirements for teachers and a belief that standards were being diluted. Two key features emerged then that continue to influence current issues for GTC Scotland today – the relentless pressure on high standards and qualification being at the very foundation of what it means to be a teacher alongside the (real and/or perceived) power and control of a teaching profession.

For many years GTC Scotland operated as a Non-Departmental Advisory Public Body – it operated largely independent from government, but it was accountable to Scottish Ministers and had a sponsoring government department. This changed significantly in 2011 when the public reform agenda, or colloquially, 'the bonfire of the quangos' (Parkinson, 2010), led to the creation of The Public Services Reform (General Teaching Council for Scotland) Order 2011. This set out the nature of GTC Scotland's full independence from government, outlined the constitution of the governing Council and detailed the Council's statutory functions and principal aims.

The core issues that gave rise to the teaching profession's calls for a body to protect teaching standards and the governance challenges of managing a statutory independent body are, at the heart of the most important issues for the Council today. However, these issues go far deeper than a consideration of how they might impact GTC Scotland as a body, they are mirrored in what at times could be viewed as challenges, and 'distortions' (Biesta, 2017, p 319) impacting the teaching profession itself; some of which fundamentally challenge what teaching is and what it means to be a teacher.

GTC Scotland does not represent teachers. It has never represented teachers. The Council represents teaching. A strength of our governing Council through the involvement of elected teachers can at times confuse our role as a representative one. Our statutory work is

rooted in setting, upholding and promoting teaching standards. We are a regulator. This starts from our role in accrediting programmes of study leading to teaching qualifications, continues on through to initial registration of individuals (where, by law, requires the investigation of the fitness of teach of everyone who wishes to join the Register of Teachers), is maintained through the registration re-accreditation scheme (known as professional update) and in a small number of cases includes the investigation and judication of the most serious competence and conduct matters. In essence our work sets out who belongs in the teaching profession and determines who can no longer belong. We have a unique place in both the education and regulation landscapes and our view from this bespoke position illustrates that the balance across our core work – setting, upholding and promoting standards - can at times be difficult to understand as we work to ensure ‘right tough regulation.’

Right touch regulation recognises that there is usually more than one way to solve a problem and regulation is not always the best answer. It may be more proportionate and effective, for instance, to strengthen employment practices or to foster professionalism. (Professional Standards Authority, 2015, p.5)

Our biggest strategic issue is in maintaining the predictability and consistency required of a regulator while being agile, looking forward and anticipating change in addition to continuing to educate about the purpose of regulation. This balancing act is likely heightened in our current context of education reform although these challenges have always been there. Teaching is the profession almost everyone in the world has watched work daily for many years. Many people believe they know what teaching is and what teachers do – although they probably have different views of what ‘good’ looks like.

Governments too have ideas about what ‘good’ is. Many jurisdictions claim to have independent regulation of teaching. Perhaps the truth emerges from determining responsibility for the professional standards – or who has ‘ownership’ of professional standards. In some countries this role sits with the government. In Scotland the Teaching Council has this statutory function although this is not without different forms of challenge. There can be a view that professional standards should bend and shift to accommodate different governmental (and other) areas of policy focus. Step forward current big strategic issue number two – ensuring professional standards for teachers transcend governmental (and other) policy. Professional standards enduring as core to the embedded professional status of teaching governed by an independent teaching council is our cornerstone, underpinned by the importance of qualification, which is big issue number three.

There are global issues in relation to ensuring adequate teacher supply where it is needed (United Nations, 2024). This impacts deeply in some communities, plays into negative media coverage (arguably helping create a self-fulfilling prophecy of discouraging people to join the profession) and pressurises governments and others into finding solutions quickly. Proposed fixes can start with a move to lower standards to allow a career in teaching to become a viable career option to more people. ‘Fixing’ can also heavily focus on initial teacher education – how can this be made easier to access by reducing qualification requirements or have a narrower ‘what works’ focus. The issue of course is that there are no simple solutions to complex problems – lowering standards may have a short-term impact but will ultimately fracture the professional status of teaching fundamentally compounding the original issue.

The actors in the system together need to actively maintain a shared conception of teaching at the heart of collective decision-making as we seek to find solutions. Teaching is complex intellectual and relational labour or as Shulman (2004, p.504) states:

perhaps the most complex, most challenging, and most demanding, subtle, nuanced, and frightening activity that our species has ever invented.

In Scotland this is reflected in teaching qualifications being rooted in academic study at higher education institutions. Sahlberg & Walker (2021, p.53, p.82) advocate that we need to educate ‘teachers to think’ to be ‘free within a framework’. Scotland’s teachers need to have autonomy and agency, valued as critical thinkers who are not merely policy implementers; each teacher creates policy with their learners, in their communities, every day. Context matters. People and relationships are at the heart of education. Teachers flex, adapt, respond and make ethical decisions from minute to minute as they work across dynamics of authority and trust. Time then to refocus the time spent on short-term solution finding time into deeply tackling sustained and structural issues.

The General Teaching Council’s unique work in setting, upholding and promoting standards allows us to gather information and form insights. We continue to work in partnership from an independent platform to influence the need for system structures that provide time and space for teachers within a reframed framework for the provision of career-long teacher learning and development in a context where there are clear roles and responsibilities of the bodies operating within the education sector. Our work as the professional regulator needs

constant reinforcement as we continue to advocate for system regulation that provides the checks and balances to ensure all is happening as it should.

Ganz (2011) emphasises the power of story. GTC Scotland's current issues are the profession's current issues and also some of their historic ones. A SERA celebration, an upcoming GTC Scotland milestone and a context of reform – an opportunity to reconnect to what our collective story over time tells us about what matters most to teaching now and in the future.

References

Biesta, G. (2017) *Education, Measurement and the Profession: Reclaiming a space for democratic professionalism in education*. *Educational Philosophy and Theory*, 49(4), 315-330.

Ganz, M. (2011) *Public Narrative, Collective Action, and Power*. In Odugbemi, S.& Lee, T. (Eds) (2011) *Accountability Through Public Opinion: From Inertia to Public Action*. Washington D.C: The World Bank. pp. 273-289.

Matheson, I. (2015) *Milestones and Minefields: The General Teaching Council for Scotland, the first fifty years*. Available from: [GTCS 50th Anniversary book 2015 \(pagesuite-professional.co.uk\)](https://www.gtcs.org.uk/50th-anniversary-book-2015) (Accessed 25 July 2024).

Parkinson, J. (14 October 2010). *Politicians' love/hate relationship with quangos*. Available from <https://www.bbc.co.uk/news/uk-politics-11536323> (Accessed 25 July 2024).

Professional Standards Authority (2015) *Right-touch regulation*. Available from <https://www.professionalstandards.org.uk/docs/default-source/publications/thought-paper/right-touch-regulation-2015.pdf> (Accessed 25 July 2024).

Sahlberg, P. & Walker, T.D. (2021) *In Teachers We Trust: The Finnish Way to World-Class Schools*. New York: WW Norton & Company.

Shulman, L. (2004) *The wisdom of practice: essays on teaching, learning, and learning to teach*. Hoboken: Jossey-Bass.

United Nations (2024) *Transforming the teaching profession: Recommendations and summary of deliberations of the United Nations Secretary General's High-Level Panel on the Teaching Profession*, Geneva: International Labour Office, ILO.

Exploring ethical imperatives in partnership: the development of a SERA Network

Alison Mitchell and Aileen Kennedy

School of Education, University of Glasgow, Scotland

Alison.Mitchell@glasgow.ac.uk; Aileen.Kennedy@glasgow.ac.uk

Ethics in education is a critical concept and an increasing necessity, as a branch of philosophy to be taught in education systems (Borenstein and Howard, 2021; Gülcan, 2015; Meyer, 2023) and as a philosophical determinant of researchers', educators' and policymakers' practice (Shapiro and Stefkovich, 2021; Söderström and Seiser, 2024). As the world navigates unprecedented challenges, and a rapid advancement in Artificial Intelligence (AI) in education (Nguyen et al., 2023), humanity is compelled to consider what is plausible, moral, and permissible, within ethical codes to which we hold ourselves accountable. If we render current generations responsible for a sustainable global future, we must consider how moral and ethical responsibility is understood and practised. Education is fundamental to this imperative, as is a critical appreciation of the increasing social, ecological, moral and economic complexities of our education systems (Global Educational Futures (GEF), 2020). To debate and understand such intersecting ethical issues facing education practitioners and researchers, the Scottish Educational Research Association (SERA) Ethics in Education network (SERA, 2024) was established in January 2024.

The SERA Ethics in Education Network

The authors of this paper are co-convenors of the Ethics in Education Network. Both authors' University roles traverse conceptions of educational theory, research and practice, from Initial Teacher Education (ITE) to Educational Leadership. Our approach to the development of the network recognises the interdisciplinary nature of ethics, intersecting the work of all SERA (2024) networks, with specific connections to Leadership, Poverty, Teacher Education, Inclusion, Philosophy and Technology. We also acknowledge the shifting and contradictory conceptions of what is ethical practice in education (Shapiro and Stefkovich, 2016) in response to global and societal challenges that support or undermine education for equity, democracy and humanity. The aim of the network is to provide a space for researchers and practitioners to consider, develop and enhance understanding and application of ethics in research and practice. All stakeholders in education face ethical challenges, and researching them will require collaboration, interdisciplinary thinking and innovate approaches to the exploration of pressing ethical challenges of our time (Figure 1):



Figure 1: Intersecting Ethical Considerations for Educators and Researchers

Our launch of the network was therefore intended as an ideas lab for future ethics-related practice and research activity in, and potentially beyond, the areas identified in Figure 1 and for planning the work of the Ethics in Education Network.

Launching the Ethics in Education Network: What is our role?

The Ethics in Education Network launch followed a SERA 50th Anniversary celebration event, where participants were asked “*what are the greatest ethical challenges to the future of education in your context?*” While there was a range of responses, the spheres of *assessment, inclusion, AI and racism* were identified by the highest number of participants. The Ethics in Education network was then launched at a hybrid event which included specialist input on four broad areas (encompassing the strands in figure 1 and feedback from event participants):

1. Ethics of the Education Profession
2. Ethical Implications of the UNCRC (Scottish Government, 2024)
3. An Ethical Framework for Research-Practice Partnerships
4. Ethical School Leadership

1) Ethics of the Education Profession

The General Teaching Council for Scotland (GTCS) Professional Standards (GTCS, 2021a) and the Code of Professionalism and Conduct (COPAC) (GTCS, 2021b) highlight values and ethical practice as core characteristics of a teacher in Scotland. A collaborative approach has been undertaken with the profession to discuss and consider a contemporary professional code of ethics, with ethical provocations a key element of the review process. Such provocations (GTCS, 2023a) have included exploration of the ethical moral and normative dimensions of

teaching with intentionality to challenge, in video resources such as “*Teaching is not a moral profession*” (Biesta, 2022, in GTCS, 2023a), “*The ethics of knowledge in curriculum design*” (Smith, 2022, in GTCS, 2023a); “*What does it really mean for teachers to act ethically within a system that they may consider to demand unethical behaviour, or a society that itself treats people unethically?*” (McEnaney, 2023, in GTCS, 2023a) and “*A sense of fairness, intuition and common sense is not enough*” (Arshad, 2022, in GTCS, 2023a).

Key concepts from the GTCS (2023a) provocations that underpin ethics of the profession are self-awareness, politics and identity, where teachers need to know who they are; their values and their ‘positionality’ and how these shape their professional dispositions and actions (Arshad, 2022; Mitchell, forthcoming). Further, ethical practice cannot be politically neutral (Mitchell et al., 2023). Teachers need the political acumen to understand issues of power and injustice (Smyth, 2012) and to challenge damaging policies or deficit narratives that limit the ethical practice required for all learners to flourish (MacDonald, 2024). The GTCS (2023b) *Ethics in Teaching: Speaking Up Guide for Professionals* was published to promote and build confidence in teachers and lecturers to report and address practice that undermines the rights of children and young people. However, the notion of ‘speaking up’ as an ethical action (Dwyer, 1994; Dwyer and Faber-Langendoen, 2018) is fraught with challenges relating to organisational cultures, hierarchies, power and bureaucracy, that can limit individuals’ capacity and safety to speak up about unethical practice. The concept and practice of ethics in the teaching profession will be a key area of exploration for the network, particularly given the legal status of the United Nations Convention of the Rights of the Child (UNCRC) in Scotland from 2024 (Scottish Government, 2024).

2) *Ethical Implications of the UNCRC (Scottish Government, 2024)*

The incorporation of the United Nations Convention on the Rights of the Child (UNCRC) in Scots law (Scottish Government, 2024), gives us the opportunity to use the law to ensure that children’s rights are respected. However, the ethics of rights are complex and do not sit in a vacuum. The actualisation of the UNCRC, and specifically *Article 12: I have the right to be listened to and taken seriously* (Children and Young People’s Commissioner Scotland (CYPCS), 2024) is often undermined through a range of intersecting, social, cultural and environmental factors and identities (Cuevas-Parra, 2023), that limit equity of participation, and marginalise already disadvantaged groups. Such limitations along with practical and conceptual challenges around tokenism and sustainability in enactment of the UNCRC (McMellon and Tisdall, 2020) motivate the Network’s research focus around conceptions and authentic practice in Children’s Rights in education. The Network will therefore provide a space for researchers and practitioners to explore the ethical dimensions of supporting an active

culture of rights-based practice. We see Research Practice Partnerships (RPPs) as a prime space for progressing this work.

3) An Ethical Framework for Research-Practice Partnerships

RPPs are gaining momentum across the world, including in Scotland. With a renewed emphasis on teacher engagement with research through the GTCS Professional Standards (GTCS, 2021a), and a growing emphasis on research impact in universities, RPPs have the potential to benefit stakeholders across the education system. However, the ethics of working across boundaries can be challenging. Power dynamics between partners have the potential to be exploited, and researching with and in schools requires specific attention to be paid to ensure ethical practice and mutual benefit. Such complex and interdependent networks require frameworks that can support open and transparent conversations about ethical challenges, structures and practices that transcend institutional/organisational borders. Accordingly, through partnership working in Scotland and beyond, we aim to foster the conditions required for RPPs to be impactful, where meaningful collaboration and networking is achieved through “productive tension in the dialectic between alterity... and affinity” (Tabak, 2022, p.171).

4) Ethical School Leadership

There is conclusive research evidence of the importance of educational leadership (Harris and Jones, 2023a) with a call for contextual understandings of the work of *leading* and *influencing* in relation to intersecting ethical, social, cultural and economic challenges in headteachers’ sites of practice. Post-pandemic characterisations of successful headship focus increasingly on leadership attributes such as compassion, political acuity, cultural responsiveness and courage (Harris and Jones, 2023b; Lash & Sanchez, 2022; MacDonald, 2023; Mitchell, forthcoming) to advance societal goals of education for social justice. Our network aims to explore the concept of ethical school leadership as an imperative in globally troubling times, while problematising characteristics and actions of the ethical headteacher; *who* is an ethical headteacher and *what* do they do? Our interest in the research and practice of ethical leadership presupposes modern realism (Risjord, 2009) whereby the existence and meaning of concepts are contextualised and dynamic, in relation to the environments in which they are practiced and experienced (Flynn, 1995). As such, we aim to engage with school leaders who have lived experience of the intersecting challenges through post-pandemic local and global crises (Cooper, 2023; Walls and Louis, 2023) that demand ethical leadership responses and critical foresight in a milieu of ambiguity.

Next Steps for the Network

We acknowledge the SERA (2005) Ethical Guidelines and the Fifth Edition of The British Educational Research Association (BERA, 2024) Guidelines for Ethical Research, that

represent key principles of ethical practice and foreground the importance of respect and safeguarding for all human subjects involved in research projects and activities. As such we are adopting a collaborative approach to the network leadership, to ensure that participants' contextual specificity is recognised and valued to foster individual and "collective energy, agency and action" (Jones et al., 2023) through our work. We are also cognisant of political dimensions of networks and partnerships (Anderson, 2023; Collier, 2019) and the importance of leveraging mutual resources to benefit the work of practitioners and researchers, thus improving the education profession. As relationships and partnership in our Ethics in Education network develops, the better positioned we will be to define, progress and research systemic and individual ethical practice as a collective outcome of our efforts.

References

- Anderson, E.R. (2023) Political considerations for establishing research-practice partnerships in pursuit of equity: Organizations, projects, and relationships. *Educational Policy*, 37(1), 77-100.
- Arshad, R. (2022) *A Sense of Fairness, Intuition and Common Sense Is Not Enough*. Available at: <https://www.gtcs.org.uk/resource/ethics-provocation-videos-and-roundtables> (Accessed 2nd September 2024).
- British Educational Research Association (BERA) (2024) *Ethical Guidelines for Educational Research, fifth edition*. Available at: <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-fifth-edition-2024> (Accessed 2nd September 2024).
- Borenstein, J., & Howard, A. (2021) Emerging challenges in AI and the need for AI ethics education. *AI and Ethics*, 1, 61-65.
- Children and Young People's Commissioner Scotland (CYPCS). (2024) UNCRC Articles: Article 12. Available at: <https://www.cypcs.org.uk/rights/uncrc/articles/article-12/> (Accessed 2nd September 2024).
- Collier, D.R. (2019) Re-Imagining Research Partnerships: Thinking through "Co-Research" and Ethical Practice with Children and Youth. *Studies in Social Justice*, 13(1).
- Cooper, A. R. (2023) Disrupting normal: A time for educational leadership to confront more than the pandemic. *Management in Education*, 37(2), 101-103.
- Cuevas-Parra, P. (2023) Multi-dimensional lens to article 12 of the UNCRC: a model to enhance children's participation. *Children's geographies*, 21(3), 363-377.
- Dwyer, J. (1994) Primum non tacere: an ethics of speaking up. *Hastings Center Report*, 24(1), 13-18.
- Dwyer, J., & Faber-Langendoen, K. (2018) Speaking up: an ethical action exercise. *Academic Medicine*, 93(4), 602-605.

- Flynn, J. J. (1995) *Aristotle's relationship to moral realism and natural law*. Fordham University. Available from: <https://research.library.fordham.edu/dissertations/AAI9530028/> (Accessed 2nd September 2024).
- Futures, G. E. (2020) *Educational Ecosystems for Societal Transformation*. Global Education Futures. Available from: <https://drive.google.com/file/d/1zmxNZpeitzDgQ7hVtj1u0FCm3EsXKk-t/view> (Accessed 2nd September 2024).
- GTCS (2021a) *GTC Professional Standards for Teachers*. Available from: <https://www.gtcs.org.uk/professional-standards/professional-standards-for-teachers/> (Accessed 2nd September 2024).
- GTCS (2021b) *GTC Code of Professionalism and Conduct (COPAC)*. Available from: <https://www.gtcs.org.uk/documents/code-of-professionalism-and-conduct> (Accessed 2nd September 2024).
- GTCS (2023a) *Ethics Provocations and Round Tables*. Available from: <https://www.gtcs.org.uk/resource/ethics-provocation-videos-and-roundtables> (Accessed 2nd September 2024).
- GTCS (2023b) *Ethics In Teaching: Speaking Up Guide For Teaching Professionals*. Available from: <https://www.gtcs.org.uk/documents/ethics-in-teaching-speaking-up-guide-for-teaching-professional> (Accessed 2nd September 2024).
- Gülcan, N. Y. (2015) Discussing the importance of teaching ethics in education. *Procedia-Social and Behavioral Sciences*, 174, 2622-2625.
- Harris, A., & Jones, M. (2023a) The importance of school leadership? What we know. *School Leadership & Management*, 43(5), 449-453.
- Harris, A., & Jones, M. (2023b) Compassionate leadership. *School Leadership & Management*, 43(3), 185-188.
- Jones, M., Azorín, C., Chapman, C. and Harris, A. (2023) Leading professional networks: different perspectives. *School Leadership & Management*, 43(1), 1-7.
- Lash, C.L. and Sanchez, J.E. (2022) Leading for equity with critical consciousness: how school leaders can cultivate awareness, efficacy, and critical action. *The Clearing house: a Journal of Educational strategies, issues and ideas*, 95(1), 1-6.
- McMellon, C. and Tisdall, E.K.M. (2020) Children and young people's participation rights: Looking backwards and moving forwards. *The International Journal of Children's Rights*, 28(1), 157-182.

- MacDonald, K. (2023) Social justice leadership practice in unjust times: leading in highly disadvantaged contexts, *International Journal of Leadership in Education*, 26(1), 1-17.
- MacDonald, K. (2024) *Socially Just Educational Leadership in Unjust Times: A Bourdieusian Study of Social Justice Educational Leadership Practices*. New York: Springer.
- Meyer, K. (2023) Moral education through the fostering of reasoning skills. *Ethical Theory and Moral Practice*, 27, 41-55.
- Mitchell, A. , Torrance, D. , Harvie, J. , Forde, C. and McMahon, M. (2023) Developing leadership for school education: constructions of system leadership. In: Woods, P. A., Roberts, A., Tian, M. and Youngs, H. (Eds.) (2023) *Handbook on Leadership in Education*. Cheltenham: Edward Elgar Publishing, pp. 474-490.
- Mitchell, A. (forthcoming) Political Acuity in School Principalship: Implications for Leadership Preparation, Development and Praxis. In: Peng, L. and Gurr, D. (Eds.) (forthcoming) *Educational Leadership Preparation and Development: International Perspectives*. London: Springer.
- Nguyen, A., Ngo, H. N., Hong, Y., Dang, B., & Nguyen, B. P. T. (2023) Ethical principles for artificial intelligence in education. *Education and Information Technologies*, 28(4), 4221-4241.
- Risjord, M. (2009) Rethinking concept analysis. *Journal of advanced nursing*, 65(3), 684-691.
- Scottish Educational Research Association. (2005) *SERA Ethical Guidelines for Educational Research*. Available from: <https://www.sera.ac.uk/publications/sera-ethical-guidelinesweb/> (Accessed 2nd September 2024).
- Scottish Educational Research Association. (2024) *Ethics in Education Network*. Available from: <https://www.sera.ac.uk/ethics-in-education-network/> (Accessed 2nd September 2024).
- Scottish Government. (2024) *UNCRC (Incorporation) (Scotland) Act 2024 - part 2: statutory guidance*. Available from: <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2024/02/statutory-guidance-part-2-uncrc-incorporation-scotland-act-2024/documents/statutory-guidance-part-2-uncrc-incorporation-scotland-act-2024/statutory-guidance-part-2-uncrc-incorporation-scotland-act-2024/govscot%3Adocument/statutory-guidance-part-2-uncrc-incorporation-scotland-act-2024.pdf> (Accessed 2nd September 2024).
- Shapiro, J. P., & Stefkovich, J. A. (2016) *Ethical leadership and decision making in education: Applying theoretical perspectives to complex dilemmas*. London: Routledge.

- Shapiro, J. P., & Stefkovich, J. A. (2021) *Ethical Leadership and Decision Making in Education*. London: Routledge.
- Smyth, J. (2012) The socially just school and critical pedagogies in communities put at a disadvantage. *Critical Studies in Education*, 53(1), 9–18.
- Söderström, Å., & Seiser, A. F. (2024) Ethical and moral perspectives in leading schools. In Damgaard Knudsen, L.E., Wiberg, M., Bjerg Petersen, K., & Haastrup, L. (2024). *Teacher ethics and teaching quality in Scandinavian schools*. London: Routledge. pp 126-142.
- Tabak, I. (2022) Productive tension in research practice partnerships: Where substance and politics intersect. *Cognition and Instruction*, 40(1), 171-177.
- Walls, J., & Louis, K. S. (2023) Ambiguity, befuddlement, contestation: competing values in district leaders' navigation of the COVID-19 pandemic. *School Leadership & Management*, 1-18.

Scotland’s national model of professional learning
Lise McCaffery, Professional Learning and Leadership team, Education
Scotland

lise.mccaffery@educationscotland.gov.scot

Co-produced by Education Scotland, the General Teaching Council for Scotland, local authorities, universities, professional associations and teachers in 2018, the national model of professional learning in Scotland seeks to build a system-shared understanding of the importance of research and practice in the design and delivery of professional learning. In this short article we will revisit the national model and its ideas around what makes professional learning impactful. Following this, we will contextualise the work and pose some questions around what might be missing from the model and consider next steps. Important to note that the term ‘education professional’ is used in the model to encompass educators, teachers, Early Learning and Childcare and Community Learning and Development practitioners whilst some of the supporting research in this article refers to ‘teachers.’

The national model of professional learning

Education professionals engage in professional learning to stimulate thinking and to ensure that practice is critically informed and up-to-date. Whether that learning is with colleagues in their setting or with external providers, the model of professional learning (Figure 1) identifies the key principles and features of effective learning that build capacity and promote collaborative practices.

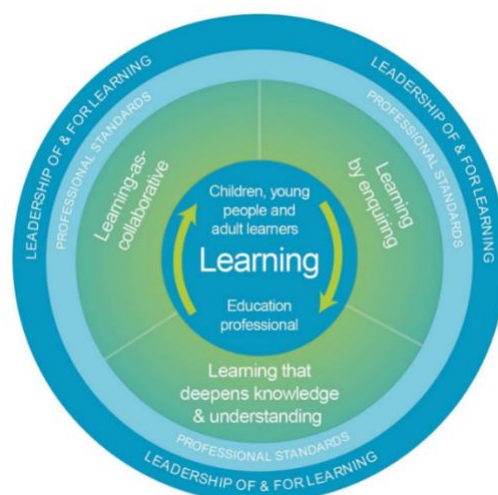


Figure 1: National model of professional learning, 2018

Professional learning looks and feels different in our post-Covid education system. In the planning of Education Scotland’s leadership professional learning offer, we have participant evaluative data that tell us that the move to online post-school-day professional learning

sessions has increased reach and broken-down barriers to access for some. However, there are some unintended consequences of this move, including how ready practitioners are to learn often after a busy day or if caring responsibilities can preclude engagement, thereby creating another barrier. We conduct an annual ‘listening exercise’ with professionals from different levels of the education system to inform our planning. The data tells us that some – particularly school and setting leaders - can’t protect the time to engage in learning online and prefer out-of-setting learning but this isn’t always possible due to competing pressures, including depleting budgets. In terms of our national offer, how people sign up to engage in professional learning is also changing. Registration for an event – online or in-person – is now less binding from the point of inception. Even when participants are keen to engage, competing pressures means professional learning is easily shifted down the list of priorities. So how people can engage and are engaging in professional learning is potentially more disparate than ever.

At the heart of the national model is the symbiotic relationship between the learning of the education professional and the learning of the children, young people and adult learners they support,

Teachers who are engaged in cycles of effective professional learning take greater responsibility for the learning of all students [...], as they discover that their new professional knowledge and practice are having a positive impact on their students, they begin to feel more effective as teachers (Timperley, 2008, p.9).

As well as professional learning and cycles of enquiry building educator self-efficacy, Barth (1990, p.49) identifies that teacher growth is closely related to learner growth,

Probably nothing within a school has more impact on students in terms of skills development, self-confidence or classroom behaviour than the personal and professional growth of their teachers.

There may be some assumptions within the model that professional learning is exclusively planned for a direct impact on children, young people and adult learner outcomes (level 5 in Guskey’s (2000) evaluation levels). However, it might be worth exploring if we collectively can agree the wider positive impact that a professional learning culture can have on sustaining and motivating educators? As an education system, do we value that professional learning can bring joy, curiosity and challenge and, in doing so, also positively impact on learners?

Outside of the inner circle of the model (in figure 1), the key principles of impactful professional learning presented are:

1. ‘learning-as-collaborative’ (learning should be interactive, reflective and involve learning with and from others)
2. ‘learning by enquiring’ (learning should be underpinned by developing skills of enquiry and criticality) and
3. ‘learning that deepens knowledge and understanding’ (learning should be challenging, and develop thinking, knowledge, skills and understanding).

Enquiry is a key feature of the national model and through enquiring approaches, enquiry projects or enquiry stances education professionals can contextualise their learning. Practitioner enquiry allows for localised forms of research to support decision-making:

Working from and with an inquiry stance...involves a continual process of making current arrangements problematic; questioning the ways of knowledge and practice are constructed, evaluated, and used; and assuming that part of the work of practitioners individually and collectively is to participate in educational and social change (Cochran-Smith & Lytle, 2009, p.40).

In this ‘stance,’ practice and research are interdependent. That is to say, practice is dependent on critically engaging with research and research itself is driven by the priorities and of educators and learners. Many education settings now use enquiring approaches in their professional learning planning and, to support this, Education Scotland is launching a new Enquiry in Education open access resource. The aim of this guided, self-directed tool is to allow teachers and practitioners to engage in learning around enquiry whenever suits them with optional, online networked-learning sessions that will alleviate the additional barriers to access noted above.

Within the model, professional standards and educational policies both support and inform professional learning. Work is being undertaken to make sure that learning resources on the Education Scotland website map to the General Teaching Council for Scotland Professional Standards, the Scottish Social Services Council Code for Early Learning and Childcare practitioners and Community Learning and Development Standards.

Around the very outside of the national model is ‘leadership of and for professional learning.’ Leaders in the widest sense understand that people are the drivers and enactors of change for improvement. As a priority, leaders should model commitment to and investment in their own professional learning and development, creating the conditions in which professional learning can thrive – space, time, culture and trust. To support this work, Education Scotland has developed the Leading Professional Learning programme for anyone designing and delivering professional learning in schools, settings or at local authority level. The programme comprises learning around key research, including transformative learning

theory, the national model of professional learning and coaching and mentoring to support learning.

What is missing?

Since the co-production of the national model of professional learning, coaching in education has grown rapidly and in 2023 Scotland's National Coaching Strategy for Education was launched with a vision 'that places coaching front and centre of how we learn and develop in Scottish education.' Education Scotland and the General Teaching Council for Scotland has been working collaboratively on the strategy and central to this work is coaching for professional learning. The strategy's aims are:

Scottish Education has a strong, embedded culture of coaching. All educators understand and experience high quality coaching which directly impacts on themselves, learning and their learning communities

This is sustained by a coherent strategy which ensures equity of access to coaching experiences and conversations, professional learning opportunities and systems of support that foster coaching (Education Scotland, 2023).

Therefore, does coaching for professional learning need to be made more explicit in our shared national model than it is at the moment? Can we build a shared understanding of the importance of coaching for professional learning? 'Who one is as a teacher has a lot to do with who one is as a person' (Olsen, 2008, p.38). Whilst the assumption that teacher learning impacts on student learning is central to the national model of professional learning, what isn't explicit is the growing evidence base around *how* and *when* teachers and educators learn. Korthagen (2019, p.12) argues that effective teacher learning must connect with the person as 'cognitive, affective and motivational sources of behaviour are intertwined, and embedded in a social context, and therefore, teacher learning is multi-dimensional learning'. In recent years, research around what makes educator learning *transformative* is informing our national leadership professional learning offer. Transformative Learning Theory (TLT) explores how changes in practice for educators are linked to changes in personal and professional perspectives. Romano (2022, p.755-756) looks at professional learning through an anti-racism in education lens.

[T]ransformative learning can support bringing awareness to the perspectives that teachers hold about education so that they might critically reflect on and shift aspects of their practice that are not in the best interest of all students.

External evaluation (Chefeke et al., 2024) of the co-constructed national Building Racial Literacy programme demonstrates how participants' personal and professional perspectives are transformed through critical reflection within 'braver, safer learning spaces' (p.9). How

might more recent research around *transformation* inform the national model of professional learning?

What next?

As part of the transition and transformation of Education Scotland, the Professional Learning and Leadership team has undertaken work to reorganise resource to meet its core functions of:

- i. providing leadership professional learning support to educators at all levels of the system and
- ii. providing strategic support for ensuring high-quality professional learning for educators across Scotland.

A refresh of the national model would provide an opportunity to explore some of the contextual challenges and opportunities highlighted above whilst also providing national discourse around the importance of professional learning and how the system works to support this. This work couldn't sit in a vacuum; we would need to acknowledge wider system reform and the large number of consultations already happening. However, a refresh could be timely with whole-system exploration of the teacher education continuum and the December 2023 announcement from the Cabinet Secretary for Education regarding the curriculum improvement cycle.

References

- Barth, R. S. (1990) *Improving Schools from Within: Teachers, Parents, and Principals Can Make the Difference*. San Francisco: Jossey-Bass Inc.
- Chefeke, Z., Shahnaz I., & Hutchinson, E. (2024) A “life-changing,” “transformative” and “inspiring and triggering” programme. Building Racial Literacy Programme Evaluation: impact and ways forward. Available from [education-scotland-pll-brl-external-evaluation-the-collective-published-20240807.pdf](#). (Accessed 28 August 2024).
- Cochran-Smith, M., & Lytle, S. L. (2009) *Inquiry as stance: Practitioner research for the next generation*. New York: Teachers College Press.
- Education Scotland (2024) *Scotland's National Coaching Strategy for Education*. Available from: [Scotland's National Coaching Strategy for Education | Coaching in Education | Self-directed professional learning | Professional Learning | Education Scotland](#) (Accessed 23 August 2024).
- Guskey, T. (2000) *Evaluating Professional Development*. Thousand Oaks, CA: Corwin

Olsen, B. (2008) How "Reasons for Entry into the Profession" Illuminate Teacher Identity Development. *Teacher Education Quarterly* 35(3), 23-40.

Romano, L.& Bostic, Q. (2023) Transformative learning for racial justice: enacting radical change through professional development, *Professional Development in Education*, 49(4), 752-764.

Timperley, H. (2008) *Teacher Professional Learning and Development*. Educational Practices Series-18. UNESCO International Bureau of Education.

SERA ECR network: Constructing and Connecting Communities for Sustainable Peer Support

Hermione Xin Miao, University of Stirling

Chantelle Boyle, University of Glasgow

Introduction to the SERA Early Career Researchers' Network

On the Scottish Educational Research Association (SERA) website, the Early Career Researchers (ECR) Network is described as a community of PhD and master's candidates, educational practitioners, postdoctoral researchers, and researchers/practitioners new to the field (SERA, 2024). Although the definition of an ECR can vary (Thériault et al., 2022; Merga and Mason, 2021), the aim of the network is to be as inclusive as possible and, under the current leadership, we have worked to create a safe space for all those beginning their career as educational researchers. This piece reflects on the development of the ECR network by exploring its main focus and activities in the past, present, and our ideas for the future.

Past

When we took over as convenors in 2023, we organised the work of the ECR network with three signature events – all designed to create ways for our diverse ECR community to network with each other, share experiences and connect with the wider academic community:

- **Edit your writing workshop**
- **Conversations with scholars**
- **Reading Club**

For the *Edit your writing workshop*, we invited scholars from SERA and our wider networks to talk about writing for conference abstract and journal articles. Academic writing requires a lot of time of editing, which is not often credited, and this workshop allowed members of the network to discuss the process of writing with one another and some more experienced scholars. We continued the theme of networking with more experienced researchers in the *Conversations with Scholars* series by inviting senior academics (and emerging scholars) to record interviews about their ECR experiences which we shared on the SERA ECR channel. This led to a further video series with scholars across all career stages called "Be Different". We have also created space at SERA conference to continue these conversations by leading workshops with early career researchers including one at SERA 2023 entitled "Imagining and designing collaborative communities for everyone to thrive: Lessons learned from diverse lived experiences". Our *Reading Club* is based on nominated reading from the SERA ECR social media account (SERA ECR on X). The club meets monthly online and includes

opportunities for authors to meet readers. Our reading has focussed on global educational perspectives, anti-racist education and curriculum making in diverse contexts – reflecting the interests of our diverse ECR network.

Present

One of the main benefits of the ECR Network is that it creates a formalised peer support community for those who have a range of experiences and diverse backgrounds. In their chapter, Thériault et al. (2022, p.246) emphasise that this peer support can provide ECRs with a ‘collaborative, caring, and critical way of...support’. Rather than focusing on the ‘hard’ academic skills expected of researchers such as presenting, researching, and journal writing, this support has a focus on well-being and building relationships to discuss the researcher journey. Furthermore, Gill and Donaghue (2016) further support this by explaining that the feelings of anxiety and imposter syndrome can be lessened through the sharing of stories and discussing the challenges faced in early career research. These ideas underpin the present work within the SERA ECR Network as our main aim is to create spaces, both in-person and online, for researchers and practitioners to have a place where they can share their journeys with one another. Both co-convenors speak openly about their own backgrounds to encourage this discussion to take place around the variety of pathways that can be taken to become ECRs. Dr Miao is passionate about their background as an international student and Chantelle discusses the challenges and strengths of coming from a low-socioeconomic background as well as being a first generation student. Therefore, the diverse backgrounds of the co-convenors offer a way to begin this conversation with other ECRs that there is no one path to becoming a researcher, and that everyone’s experiences are valid within our community (Merga and Mason, 2021).

In celebration of SERA’s 50th Anniversary, the ECR Network has a clear vision for this year’s activities and conference. The aim is to give space to these diverse stories from our network members; it is essential for our present and future colleagues to observe the range of experiences brought by each individual. Through our monthly Podcast episodes, we aim to give a voice to those at all different stages of their journey as well as to gain an insight from more senior academics, who were once themselves ECRs. Additionally, the Reading Club provides a space for a more informal dialogue to exist amongst the community where current literature is explored and contextualised within the researcher’s own experiences. These activities could fall into mentoring as a community has been created where ECRs can provide guidance to those in earlier stages, or learn from more experienced members (Thériault et al., 2022). It is a collaborative, inclusive and caring space that welcomes all early careers researchers to join and share their experiences.

Future

It is important for Early Career Researchers to have a community for both professional and personal development (Thériault et al., 2022; Merga and Mason, 2021; Gill and Donaghue, 2016). Hence, the future development of this network is crucial and, as co-convenors, we have plans that we hope will be continued by current and new members. Our vision for the future of the network is underpinned by three broad principles – collaboration, resource creation and navigation.

The network has plans to collaborate with the BERA ECR network to launch 'Universities Roadtrip in Scotland' which connects different universities in Scotland. This opportunity will bring together researchers from various universities in the UK who have a diverse range of experiences. Harnessing these experiences can mean that we all learn from different institutions through the sharing of knowledge as well as developing training sessions building upon this (Merga and Mason, 2021).

The network also plans to develop collaboration with other educational networks like the Interdisciplinary Network and Scottish Graduate School of Social Sciences to connect ECRs with researchers whose expertise is relevant to educational studies and practitioners in different sectors and fields of education. Again, this acts as a mentorship development where the community is learning from others within and outside the field who are at different stages of their journey.

We intend to host these resources and others on a free and open resource hub. Using the SERA ECR YouTube Channel and curating playlists will allow us to create a hub that responds to different areas of interest within the ECR community. Based on SERA ECRs' requests, the co-convenors will develop monthly podcasts to converse with scholars. One of the benefits of placing these resources online, and free of cost to the viewer, is that it enables individuals to watch or access these in their own time. Early career researchers do have busy schedules which can be a challenge in attending live or in-person events; therefore, these online resources can give people knowledge at their own pace and time. Furthermore, these platforms allow ECRs to request content or specific questions to be addressed by the network which they may find useful in their own academic and personal progression.

The SERA ECR network is like public transport which takes early career researchers on a shared journey before they are ready for a new adventure. Even established scholars had their ECR phase which is why the network is keen to collect wisdom from a wide range of career phases with individuals who openly share their stories and reflections. Through these interactions, the ECR community can be open to the range of different paths that are available after this stage of their research journey. It also highlights the diversity of researchers within

different universities, like international scholars, which embraces the current vision for the network. These conversations with experienced scholars provide possible roadmaps which can help inexperienced early career researchers to navigate their own journeys into the next stages.

Conclusion

This piece has given an insight into the past, present and future for the Early Career Researcher's Network within SERA - a significant aspect of the work of SERA. The aim is to be inclusive to the many different researchers who fall into this broad category and create spaces to grow, learn, and develop as an academic with the support of peers within a similar situation. The community embraces the diverse backgrounds that researchers come from, and the current co-convenors hope to share their own journeys to encourage more discussions such as this to occur within academic spaces. Our aim is to keep evolving this network to give a place to those who are at the beginning of their journey within academia that is supportive and built upon formalised peer learning.

References

- Gill, R. & Donaghue, N. (2016) Resilience, apps and reluctant individualism. Technologies of self in the neoliberal academy. *Women's Studies International Forum*, 54, 91-99.
- Mergam, M. K. & Mason, S. (2021) Mentor and peer support for early career researchers sharing research with academia and beyond. *Heliyon*, 7(2), 1-10.
- Scottish Educational Research Association (2024) *Early Career Researchers Network*. Available at: [Early Career Researchers Network – SERA](#) [Accessed 27th March 2024].
- Thériault, V., Beck, A., Mouroutsou, S. & Billmeyer, J. (2022) Formalised peer-support for early career researchers: potential for resistance and genuine exchanges. In, Addison, M, Breeze, M. and Taylor, Y. (Eds) (2022) *The Palgrave Handbook of Imposter Syndrome in Higher Education*. Springer Nature: Switzerland. pp. 241-257.

Transcending borders: Teachers' understandings of physical education across the UK
Shirley Gray, School of Education and Sport University of Edinburgh,

shirley.gray@ed.ac.uk

Nicola Carse, School of Education and Sport, University of Edinburgh,

nicola.carse@ed.ac.uk

Introduction

There is the perception among some researchers that there is one system of education in the UK (Raffe et al., 1999) - one universal curriculum across the four nations of England, Northern Ireland, Scotland, and Wales. However, this is not the case, with each government within the UK responsible for setting their own educational agenda – inevitably leading to points of divergence across systems. The UK Physical Education (PE) Collaborative (see: <https://blogs.ed.ac.uk/ukpe-collaborative/>) was formed by a group of researchers (each with an affiliation to the education systems in England, Northern Ireland, Scotland and Wales) interested in exploring the PE curricula from across the four nations of the UK. Since 2019, they have worked together, and with PE teachers, to promote cross-border curriculum discussions, learning and collaboration. Their work is based on the premise that, learning about PE curriculum (and pedagogy) within and across each of the UK nations has the potential to stimulate new ideas about what PE could be. Moreover, that involving PE teachers in cross-border learning and discussion might support the development of knowledge, discourse and confidence to have a greater say, and a stronger collective voice, in future curriculum developments (Evans, 2014; Penney, 2008).

To date, the core researchers that form the UK PE collaborative have carried out three phases of research. In phase one, a series of cross-border curriculum analyses was conducted to understand the messages conveyed about the nature and purpose of PE in each context (Gray et al., 2022). In phase two, interviews with PE teachers from across the UK were carried out to understand how they conceptualise and enact PE, and the factors that shape their practice. The teachers were also invited to reflect on their own context and consider where there might be opportunities to think about and enact PE differently (Gray et al., 2024; Carse et al., in preparation). In the third phase, the research team drew from the findings and resources developed in phases one and two (see: <https://blogs.ed.ac.uk/ukpe-collaborative/>) to work *with* PE teachers from across the four nations of the UK, creating space for them to share their experiences and learn from each other. In this phase, three workshop series were organised. Each workshop provided PE teachers with opportunities to share curriculum knowledge and experiences, critically reflect on their own context, and consider what PE could be in the future.

The purpose of this short article is to share some of the findings from phases 1 and 2 and reflect on what this means for PE in Scotland, now and in the future.

Select findings

As mentioned above, in the first phase (Gray et al., 2022) a series of curriculum analyses was carried out to understand what PE was ‘like’ in each country - at least from a curriculum perspective. To do so, a discourse analysis of key curriculum documents was carried out to understand which discourses were evident within each country, what messages they conveyed about the purposes of PE and how these were similar or different across countries. One of the findings from this analysis was that across all the countries, except for Wales, a discourse of performance is prevalent, where the development of motor skills and physical competences are presented as a key function of PE. Interestingly, in Scotland, there is a slight shift in this discourse from the primary to the secondary setting. In primary schools, ‘Personal Qualities’ refer to social and emotional development allied to positive health and wellbeing. However, in the secondary years, social and emotional development is more explicitly referenced in relation to the development of skills to enhance sports performance.

Another key finding from this analysis was the similarity in discourses of health between Scotland and Wales. In contrast to England and Northern Ireland, where a public health discourse was evident (in England from Key Stage 1 to Key Stage 5, and Northern Ireland in Key Stage 4), the curriculum documents in Scotland and Wales referred to a broader conceptualisation of health (or health and wellbeing) that incorporates social, emotional, mental and physical wellbeing. That is, rather than PE being primarily understood as a means to increase physical activity levels, improve fitness and develop healthy lifestyles (for a critique of this conceptualisation see: Gray et al., 2015), PE in Scotland and Wales contributes to the holistic development of young people, paying attention to, for example, how they work with others or deal with challenging situations (Scottish Government, 2017; Welsh Government, 2020).

The findings above are interesting and suggest that, despite major curriculum reform in 2010 (Scottish Government, 2004), PE in Scotland remains focussed on the development of performance, although less so in the primary context. In contemporary times, it is important to reflect critically on this persistence, and question why this conceptualisation is so prevalent, who benefits from this form of PE and importantly, who does not? However, it is also interesting to reflect upon how this discourse might be re-interpreted considering the broader conceptualisation of health (and wellbeing) evidenced within the Scottish curriculum. For example, in phase two of this project, a small sample of teachers from across the UK were interviewed (three from each country) to explore how they understood and practiced PE (Gray

et al., 2024), and the analysis revealed that a discourse of care was particularly evident in the responses of the teachers from Scotland. The teachers from Scotland (two secondary and one primary) talked about their practice in relation to developing ‘positive relationships’, ‘nurture’, ‘considering the rights of their pupils’, ‘empathy’ and ‘safety’ (Gray et al., 2024, p.13). Furthermore, when the teachers described their PE pedagogy, rather than describing practices associated with a ‘traditional conceptualisation’ of PE, for example, blocks of traditional games or a pedagogy focused on the development of sports skills and fitness, unlike the PE teachers from Northern Ireland and England, the teachers from Scotland talked about teaching alternative activities such as boccia and student-designed games (Carse et al., forthcoming). Additionally, they talked about using student-led teaching approaches, focussing on social and emotional learning, for example, building confidence, being respectful, improving communication and developing critical thinking skills. Interestingly there was some evidence of similar discourses/approaches in the responses from the teachers in Wales, although at times, more traditional discourses around developing sports skills and increasing physical activity were also evident.

Final Reflections

So, what does this research tell us, what can we learn? While we recognise that this research is small-scale, it does indicate some important learning for us as educators and researchers. Reflecting much of the literature on curriculum development (e.g. Priestley et al., 2021) our research also highlights it as ongoing requiring time and space; as Fullan (1993) reminds us curriculum development is a process not a product. The interviews we undertook with teachers brought to our attention their experiences and voices. To further amplify these voices, through the workshop series, we initiated boundary crossing for teachers from across the UK. Driven by the real experiences and wonderings of teachers these workshops highlighted how sharing stories supported teachers to understand different perspectives, develop critical thinking and re-imagine PE and health and wellbeing within the school curriculum. Moreover, a key take-away from this research is that making space, actively listening to and capturing voices from the ‘chalkface’ is vital, but still lacking within the education system, something we are striving towards as we continue the next phase of this research.

Acknowledgements

We would like to acknowledge all members of the UK PE Collaborative for their contributions to the research associated with this article:

Dr Stephanie Hardley (University of Edinburgh); Dr Anna Bryant (Cardiff Metropolitan University); Dr Oli Hooper, Dr Rachel Sandford and Dr Julie Stirrup (Loughborough University); Dr David Aldous (Edith Cowan University, Australia).

References

- Carse et al., in preparation, Transcending borders: Teachers understandings of PE across the UK
- Evans, J. (2014) Neoliberalism and the future for a socio-educative physical education. *Physical Education and Sport Pedagogy*, 19(5), 545-558.
- Fullan, M. (1993) *Change Forces*. London: The Falmer Press.
- Gray, S., MacIsaac, S., & Jess, M. (2015) Teaching ‘Health’ in Physical Education in a ‘Healthy’ Way. *RETOS: Nuevas tendencias en Educacion Fisica Deportes y Recreacion*, 28, 165-172. Available from: <http://recyt.fecyt.es/index.php/retos/article/view/34950/19218> (Accessed 25 July 2024).
- Gray, S., Sandford, R., Stirrup, J., Aldous, D., Hardley, S., Carse, N. R., Hooper, O., & Bryant, A. S. (2022) A comparative analysis of discourses shaping physical education provision within and across the UK. *European Physical Education Review*, 28(3), 575–593.
- Gray, S., Hardley, S., Bryant, A.S., Hooper, O., Stirrup, J., Sandford, R., Aldous, D., & Carse, N. (2024) Exploring physical education teachers’ conceptualisations of health and wellbeing discourse across the four nations of the UK. *Curriculum Studies in Health and Physical Education*, 15(1), 1-23.
- Penney, D. (2008) Playing a political game and playing for position: Policy and curriculum development in health and physical education. *European Physical Education Review*, 14(1), 33-49.
- Priestley, M., Alvunger, D., Philippou, S., & Soini, T. (Eds.) (2021). *Curriculum making in Europe: Policy and practice within and across diverse contexts*. Leeds: Emerald Publishing Limited.
- Raffe, D., Brannen, K., Croxford, L. & Martin, C. (1999) Comparing England, Scotland, Wales and Northern Ireland: the place of ‘home internationals’ in comparative research. *Comparative Education*, 35 (1), 9-25.
- Scottish Government (2017) *Benchmarks: Physical education*. Edinburgh: Scottish Government.
- Scottish Government (2004) *A Curriculum for Excellence*. Edinburgh: Scottish Government.
- Welsh Government (2020) *Introduction to Curriculum for Wales guidance*. Available from: <https://hwb.gov.wales/curriculum-for-wales/introduction-to-curriculum-for-wales-guidance/> (Accessed 24 September 2024).

What can data from International Large-Scale Assessments tell us about education in Scotland?

Keith Dryburgh and Emily Webb, Learning Analysis, Scottish Government

During 2022, almost 600,000 fifteen-year-olds from over 80 countries sat down for an assessment of their skills and knowledge in mathematics, reading and science. The results of these assessments drove newspaper headlines, political debates, and educational reforms, right across the globe. PISA (the Programme for International Student Assessment) is the largest comparative educational assessment in the world. On some measures, it is the largest social research exercise in the world. Assessments have taken place every three years since the year 2000, with results seen as hugely influential. While the headline scores for maths, reading and science gain the most attention, it is the detail behind these figures that makes PISA especially valuable. Covering areas such as growth mindset, sense of belonging, creativity, homelife, wellbeing, and socio-economic background, PISA offers a rich dataset to help understand Scotland's schools and young people. This article explains how PISA works, what the dataset contains, and opportunities for using PISA data in research. The article then looks forward to Scotland's participation in the Progress in International Reading and Literacy Study (PIRLS) in 2026 and the Trends in International Maths and Science Study (TIMSS) in 2027, and how international comparative data can support the Scottish Education System.

How PISA works?

The OECD Programme for International Student Assessment (PISA) assesses the extent to which 15-year-old students near the end of their compulsory education have acquired the knowledge and skills that are essential for full participation in modern societies. The assessment focuses on the core domains of reading, mathematics and science, with one of these areas being the main domain in each cycle. Students' proficiency in an innovative domain is also assessed; in PISA 2022, this domain was 'creative thinking'.

Since PISA 2015, computer-based testing has been used in most countries, with assessments lasting a total of two hours for each student. A multi-stage adaptive approach is used in tests whereby students are assigned a block of test items based on their performance in preceding blocks. Test items are a mixture of multiple-choice questions and questions requiring students to construct their own responses and are organised in groups based on a passage setting out a real-life situation.

Students also answer a background questionnaire, which seeks information about students' attitudes, dispositions and beliefs, their homes, and their school and learning experiences. Headteachers in participating schools complete a questionnaire that covers school

management and organisation, and the learning environment. Both students and schools responded to items in a Global Crisis Module in PISA 2022, which aimed to gather their perspectives on how learning was organised during school building closures due to the COVID-19 pandemic.

PISA 2022 results

The OECD described the PISA 2022 results as ‘unprecedented’. Mean performance in OECD countries fell by 15 points in mathematics and by 10 score points in reading. This is roughly the same as half a year’s worth of learning in reading and three-quarters of a school year in mathematics. The OECD indicated that the dramatic fall in performance affecting many countries suggests a negative shock caused by COVID-19, although a longer-term decline in scores suggests that other factors are also at play.

Scotland has taken part in PISA since 2000, covering eight cycles of assessments. In total over 22,000 fifteen-year-olds in Scotland have taken part in an assessment over this period. In PISA 2022, over 3,000 fifteen-year-olds from 117 schools participated in a computer-based assessment in their schools. Key findings from Scotland’s results showed that:

- Scotland’s scores in Maths and Reading had decreased, while the scores for Science were similar to 2018. Across participating countries, most saw the same pattern;
- Scotland's scores in the 2022 PISA assessments were above the OECD average in reading and similar to the OECD average in mathematics and science. This was also the case in the PISA 2018 assessment;
- The strength of the relationship between social background and performance increased for Mathematics in 2022 compared to 2018, but was similar for Reading and Science;
- In PISA 2022, students in Scotland were more likely than in PISA 2018 to agree that they feel like they belong at school, and less likely to report experiencing bullying acts. However, they were more likely than in 2018 to report having skipped a day of school recently.

PISA 2022 took the opportunity to examine how education systems, schools, teachers and students responded to Covid and school building closures through new questions in the student and headteacher questionnaires. The responses show a mixed picture. The majority of students in Scotland agreed that their teachers were well prepared to provide instruction remotely and were available when they needed help. Students in Scotland were also less likely

than the OECD average to experience problems accessing the internet, digital devices, and learning materials. However, students in Scotland were less likely than the OECD average to agree that they were prepared for learning on their own and that they had felt motivated to learn, and more likely to agree that they learned less learning at home.

Access to the PISA dataset

A plethora of PISA reports and datasets are available for researchers. This includes the international PISA 2022 reports (PISA, 2023a) and the PISA 2022: Highlights from Scotland's Results report (Scottish Government, 2023). The PISA dataset is available to download from the OECD website (OECD, 2023b) for every country and year of assessments. This includes the full set of responses from individual students, school headteachers, teachers and parents. The files available include questionnaires, codebooks, data files in SAS and SPSS formats, and compendia. The OECD have also constructed a PISA Data Explorer which allows analysis of data between 2000 and 2022 for each country.

Pupil Candidate Numbers are collected for the students in Scotland who participate in the PISA assessments, which allows for data linkage with administrative education datasets. PISA data can therefore be linked to datasets such as SQA qualifications data, Achievement of Curriculum for Excellence Level (ACEL) data, the Health and Wellbeing Census, attendance and absence data, and others. Researchers who plan to utilise PISA linked data can make an application for linked data from the Scottish Government (Scottish Government, 2024).

Looking ahead

Preparations are underway for the PISA 2025 assessments, which will take place in schools in Scotland during September and October 2025. The main domain for the assessment will be Science and the innovative domain includes a Learning in the Digital World assessment, which will measure students' capacity to engage in an iterative process of knowledge building and problem solving using computational tools. Results will be published in the second half of 2026. These assessments will offer further insights into attainment, particularly in science, and provide an opportunity to assess educational recovery since the pandemic. Scotland has also rejoined two key international assessments: the Progress in International Reading and Literacy Study (PIRLS) and the Trends in International Maths and Science Study (TIMSS).

PIRLS, which assesses reading literacy in P5 pupils, will begin with a Field Trial in Spring 2025 and the main assessment in 2026 (IEA, 2024a). PIRLS not only measures reading attainment but also looks closely at contextual factors, such as pupils' attitudes towards reading and their experiences at home and school. The 2026 PIRLS cohort is of particular interest, as these pupils began school in the 2021/22 academic year, coinciding with Scotland's emergence from the pandemic. Their early educational experiences, shaped by lockdowns and other

disruptions, present a valuable opportunity to explore how these unique circumstances have impacted their literacy development and reading skills.

TIMSS, assessing maths and science achievement at P5 and S2, examines both attainment and the wider learning environment. Scheduled for 2027, TIMSS will provide valuable insights into how children in Scotland develop key skills in these subjects, helping to inform future curriculum and teaching practices (IEA, 2024b).

The international assessments – PISA, PIRLS, and TIMSS – will provide rich sources of evidence on children and young people, and their education, in Scotland. They will also be sources of comparative data, helping to learn from best practice in other countries. Taken together, alongside national education datasets, they form a wide-ranging set of data to understand how education is meeting the needs of children and young people. The opportunities for secondary analysis are significant: all of the international survey datasets are fully accessible to researchers and can be linked to national data sets through working with the Scottish Government.

References

International Association for the Evaluation of Educational Achievement (IEA). (2024a)

Progress in International Reading and Literacy Study 2026. Available from:

<https://www.iea.nl/studies/iea/pirls/2026>. (Accessed 24 September 2024).

International Association for the Evaluation of Educational Achievement (IEA). (2024b)

Trends in Maths and Science Study 2027. Available from:

<https://www.iea.nl/studies/iea/timss/timss2027>. (Accessed 24 September 2024).

OECD. (2023a) *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*. Paris: OECD Publishing.

OECD. (2023b) *PISA 2022 Database*. Available from:

<https://www.oecd.org/en/data/datasets/pisa-2022-database.html> (Accessed 24 September 2024).

OECD. (2023c) *PISA 2022 Assessment and Analytical Framework*. Paris: OECD Publishing.

Scottish Government. (2023) *Programme for Student Assessment (PISA 2022): Highlights from Scotland's Results*. Edinburgh: Scottish Government.

Scottish Government. (2024) Scottish Government statistics: request our data. Available from: <https://www.gov.scot/publications/scottish-government-statistics-request-our-data/>. (Accessed 24 September 2024).

Pedagogical Reduction: Crafting the Educational Reality
Nicola Robertson, Institute of Education, University of Strathclyde
n.robertson@strath.ac.uk

In his work, *Forgotten Connections*, Klaus Mollenhauer considers the role of the educator in representing the world as ‘a facsimile or reproduction... that is ‘better’, for the sake of the children’ (Mollenhauer, 2013, p.53). With this idea, he is invoking the idea of a creation of a safe space (either physically or metaphorically) for the student to engage in ‘pedagogical rehearsal or practice’ (Mollenhauer, 2013, p.31) – that is to say, what is ‘better’ about the educational reality, in Mollenhauer’s view, is that the educational instance is shielded, for the student, from the complex pressures and entangled relations of the world beyond the discriminate barriers of the school gates, or the university classroom. The educational instance, as I have conceptualised it elsewhere, is akin to a walled garden that is crafted, and curated, for the student by a skilled educator (Robertson, 2023).

Philosophical considerations of education, such as this, can often seem distant from the quotidian activity of the educator-in-practice. Yet, the process that is essential to the building of the educational reality – pedagogical reduction – is a central feature of education (Lewin, 2017) and it is inevitable that every educator takes their part in this process, whether or not they are aware of it, or have the vocabulary to describe it. Nevertheless, despite corresponding concepts in German (*didaktische reduktion*) and French (*la transposition didactique*), among others, being firmly accepted in continental pedagogical thought, pedagogical reduction is yet to find traction among anglophone theorists and philosophers of education. I suspect that this is due to the notion of reduction as running counter to ideas of education as necessarily related to nurturing and growth. Indeed, this may appear to be a fair argument; although, it is rooted in a fundamental misunderstanding of pedagogical reduction from the outset. This short piece will, therefore, aim to describe the ubiquitous process of pedagogical reduction and, by extension, its role in the crafting the protective space of the educational reality.

Educators are engaged in the process of pedagogical reduction even before any teaching begins. They, or the institutions for whom they act as agents, must decide what is going to be taught. This is the first step in the process, and is known as *selection* (Lewin, 2017). Selecting content may sound straightforward, but to do so thoughtfully is to acknowledge that to reveal something of the world by selecting it, is to obscure something else that could be considered just as valuable. The art of selecting is both to ensure that content chosen is the most worthwhile or important for the student (Lewin, 2018), and to acknowledge the power and trust given to

the educator(s) to make this decision. Selection, too, predicates what comes next in the process, as by selecting, educators are removing something from the world to be used as content, thus wrestling it from the complex relations of its original context.

Simplification is the next step in the process, whereby the educator then takes what they have chosen to reveal and reduces the complexity to provide what Martin Wagenschein (1999) describes as an entry point to content. To give an example, if a teacher intends to teach coding to a group of 12-year-olds, they are unlikely to start with the most difficult programming language, nor would they choose to learn the most difficult concepts first and work backwards. Even more unlikely are they to ask the students to code something for commercial use, or for a client. Coding has, therefore, been simplified for these students by virtue of both curating of the content to introduce complexity gradually, and by removing the activity of coding from its place in the economic sphere such that the students are free to experiment with it without expectation or pressure.

It is easy to imagine that educators reading this are so far cognisant of the two steps that I have described as fairly routine activities in practice, although they may never have seen them labelled in the explicit way that has been done so here. The final step in the reduction process – *representation* – may, on the other hand, seem less familiar, but is, like the other steps, ubiquitous.

Representation concerns the result of the steps of selection and simplification, such that it can then be offered up to students as educational content. Representation is where the educational reality comes into being as the protective space for students to enter freely into practice and dialogue with the world. Objects that may arise at the end of the reduction process, and that support such practice and dialogue, may be called *pedagogical reductions*. Pedagogical reductions can range from the textbook – an easy example of selection and simplification in a succinct format – to the school building itself, which comprises a purpose-built space for revealing what the educators have chosen and brought into the space, while concealing the world outside of its walls. As Masschelein and Simons (2013, p.38) note about the school: ‘society is in some way kept outside – the classroom door shuts and the teacher calls for silence and attention’. The educational reality, therefore, comprises of purposely built spaces (both physical and metaphorical) filled with carefully chosen things from the world that are edited especially for the people who will look at and/or use them to encourage an improvement in their relations to those things. In short, the educational reality is conscientiously crafted, and curated, for the student.

Despite beginning from a process of reduction, the protective sphere of the educational reality becomes an optimal place for growth. Just as the flora in the walled garden grow in cultivated surroundings, so too do the students who engage in pedagogical rehearsal and practice in the reality that is constructed via pedagogical reduction. Of course, unlike the flora in the garden, it is expected that students will grow to the point that the educational reality can no longer sustain them. It is, therefore, important for educators to be mindful of the power they hold when making their pedagogical reductions, and the ethical implications that arise as a result. For example, how can educators be certain of selecting content in a way that is genuinely valuable to students? How might they avoid making assumptions about student ability that risks simplifying content in a way that is too little (throwing the student in at the deep end), or too much (leading to patronising stultification)? And vitally, how might educators ensure that the student is aware that the educational reality is not the *only* reality, but the result of a series of choices by the educator to demonstrate something that they believe to be valuable in the hope that the student's relation to the world might change?

These are important, critical questions that educators can ask themselves when curating content for instances of education in their own contexts. However, it is important to note that these are only questions that can be asked when educators are mindful of the process of pedagogical reduction, and the crafting of the educational reality, in the first instance. As a researcher engaged in theory and philosophy of education, it is one of my broad intentions to question aspects of the educational instance that call practitioners to reflect on what they do, how they do it, and why. Indeed, this is the intention of this brief foray into pedagogical reduction and educational reality, imbued with the hope that some may heed that call and note the value that education theory offers to their practice.

References

- Lewin, D. (2017) Representation and the pedagogical reduction of the world. In Chinnery, A. (Ed) (2017) *Philosophy of Education Yearbook*. Urbana, IL: Philosophy of Education Society. pp. 168-181.
- Lewin, D. (2018). Toward a theory of pedagogical reduction: Selection, Simplification and Generalization in an age of critical education. *Educational Theory*, 68(4-5), 495-512.
- Masschelein, J. & Simons, M. (2013). *In Defence of the School: A Public Issue*. (J. McMartin, Trans.). Leuven: Education, Culture & Society.
- Mollenhauer, K. (2013). *Forgotten Connections: On Culture and Upbringing*. (N. Friesen, Trans.). New York: Routledge.
- Robertson, N. (2023). The Walled Garden of Pedagogy: Leveraging Protection and Risk in Education. *International Journal of Modern Education Studies*, 7(1), 43-56.

Wagenschein, M. (1999). Teaching to Understand: On the Concept of the Exemplary in Teaching. In Westbury, I., Hopmann, S. & Riquarts, K. (Eds.) (1999) *Teaching as a Reflective Practice: The German Didaktik Tradition*. New York: Routledge. pp. 283-310.

Enhancing Learning for Sustainability in Scotland: opportunities for future flourishing through research into curriculum making.

Elizabeth A.C. Rushton, Professor in Education, Head of the Education Division, Faculty of Social Sciences, University of Stirling.

Lizzie.rushton@stir.ac.uk

Introduction

As part of the celebrations of the 50th anniversary of the Scottish Educational Research Association, it is a great pleasure to be invited to reflect on how educational research can support the continued development of Learning for Sustainability (LfS), which has been integrated into formal education in Scotland for over a decade. LfS brings together: Education for Global Citizenship (ECG), Outdoor Learning, Children's Rights and Sustainable Development Education (SDE) (LfS, 2016). In Scotland, LfS is an entitlement for all children and young people and there is a requirement for all teachers to address LfS as part of their practice (Clarke & McPhie, 2016; McGregor & Christie, 2021). As McGregor and Christie (2021, p.2) note, LfS articulates a holistic approach which:

*encourages educators and learners to engage with complexity,
messiness and uncertainty in ongoing open-ended pedagogical endeavour.*

Arguably, with global challenges of climate change, biodiversity loss, conflict, persistent inequalities and threats to democracy, there has never been a more important time for messily engaging with complexity and uncertainty through education. Through this short contribution, I highlight some of the research opportunities in the context of LfS, with a focus on curriculum making.

Curriculum making and Learning for Sustainability

Twenty years since the first inception of Curriculum for Excellence (CfE) (Scottish Executive, 2004), Scotland remains a significant context for curriculum innovation and development. Scotland was an early adopter of a wider global trend to frame education around key competencies or capacities (Biesta & Priestley, 2013) where teachers have greater autonomy to enact change (Priestley & Minty, 2013). Whilst the outcomes and implementation of CfE continue to be a source of debate, it is perhaps undeniable that Scotland has become established as an important context for research focused on curriculum making. Important contributions include those made by my colleagues at the University of Stirling which, since 2016 has been the home of the Stirling Network for Curriculum Studies which evolved in 2023 to become the Stirling Centre for Research into Curriculum Making (SCRCM, n.d.). Such initiatives bring together academics from across Scotland, the UK and internationally, to develop curriculum thinking and making in dialogue with practitioners and policy makers and has resulted in many

fruitful outcomes including work with Education Scotland, Welsh Government and in Ireland, the National Council for Curriculum and Assessment (SCRCM, n.d.).

So, given this context, why does curriculum making continue to be a key focus for educational research, practice and policy? Why is curriculum making important in the context of Learning for Sustainability (LfS)? Or to put it simply, why does understanding curriculum making matter? Firstly, curriculum making is a social practice, which reflects the values, beliefs, ethics and morals of those who contribute and the contexts in which it is created (Priestley et al., 2021). Curriculum making can contribute to more just and equitable lives for all and equally curriculum making can mean injustice and intolerance persists. Research into curriculum making helps us to critically explore subject stories and the voices that their curricula make visible and invisible, and the ways in which western (neo)colonial projects suppress and eliminate diverse theories, concepts and experiences from curricula across the world (Gandolfi & Rushton, 2023). Education research could continue to explore how LfS is collaboratively made by practitioners and other actors (e.g. policy makers, non-governmental organisations) across different sites, and the infrastructure available to support curriculum making in schools. Studies could consider a range of practices in LfS including pedagogical approaches; the selection of content and creation of resources; the organisation of teaching; and the implementation of assessment.

Secondly, teachers are fundamental to curriculum making – they create, translate and mediate the curriculum, drawing on their subject and professional knowledge and dispositions (Priestley & Minty, 2013). Research which furthers our understanding of the role of teachers in curriculum making and teachers' beliefs has and will continue to inform policy and practice (Priestley et al., 2015). Such research in the context of LfS could continue to enhance our understanding of the ways in which teachers' ideas, values and beliefs associated with areas including climate change, biodiversity loss, net zero and climate justice shape their practices. Research which considers teachers' professional lives in relation to LfS could help us understand enablers and constraints to achieving agency and how these are similar and different across the different educational policy settings in the UK (see Rushton, Dunlop, & Atkinson, 2024 for a recent study from England). Indeed, given the different approaches to education in general and environmental sustainability education across the four nations (Dunlop et al., 2022; Rushton & Dunlop, 2022), such comparative studies could provide further questions, insights for researchers, practitioners and policy makers. Such studies are arguably an important part of ongoing work to ensure that education equips children and young people to live with futures which continue to be shaped by environmental, social and political challenges.

Finally, curriculum making involves dialogue and partnership working with actors including policy makers, curriculum agencies and organisations at different levels and scales and with varied resources and contexts. Effective implementation of curriculum requires teachers, academics, policy makers and other groups to participate in critical and collaborative dialogue, it requires spaces where such dialogue can occur. One such important space of partnership and dialogue is Initial Teacher Education (ITE) where universities and schools work in partnership with organisations such as the General Teaching Council Scotland (GTCS) and Education Scotland, to equip and enable the next generation of teachers to enter and remain in the profession. At the heart of ITE, is developing teachers who are reflexive and critical practitioners, who are ethical and values-led and have multi-faceted professional identities. The different strands of LfS provide a range of contexts through which beginning teachers can develop their identities as teachers. Future research could explore the ways in which the various aspects of LfS shape and influence the professional lives of teachers at different stages of their career and consider different approaches to LfS which are sensitive to the contexts and cultures of schools and communities. To conclude, Scotland provides a rich context for both LfS and curriculum making. Research which looks across these fields provides rich opportunities to collaboratively develop education experiences which are meaningful for children and young people and enable them to live happy, healthy and fulfilling lives.

References

- Biesta, G. & Priestley, M. (2013) A Curriculum for the twenty-first century? In Priestley, M. & Biesta, G. (Eds) (2013) *Reinventing the curriculum: New trends in curriculum policy and practice*. London: Bloomsbury. pp. 229–236
- Clarke, D.A. & McPhie, J. (2016) From places to paths: Learning for sustainability, teacher education and a philosophy of becoming. *Environmental Education Research*, 22(7), 1002-1024.
- Dunlop, L. & Rushton, E.A.C. (2022) Putting climate change at the heart of education: Is England's strategy a placebo for policy?. *British Educational Research Journal*, 48(6), 1083-1101.
- Dunlop, L., Rushton, E.A., Atkinson, L., Ayre, J., Bullivant, A., Essex, J., Price, L., Smith, A., Summer, M., Stubbs, J.E. & Diepen, M.T.V. (2022) Teacher and youth priorities for education for environmental sustainability: A co-created manifesto. *British Educational Research Journal*, 48(5), 952-973.
- Gandolfi, H. and Rushton, E.A.C. (2023) Decolonial and anti-racist perspectives in teacher training and education curricula in England and Wales. *Curriculum Journal*, 34(1), 1-7.

- Learning for Sustainability National Implementation Group. (2016) *Vision 2030+: Concluding Report of the Learning for Sustainability National Implementation Group*. Available from: <https://education.gov.scot/improvement/Documents/res1-vision-2030.pdf> (Accessed 24 March 2024).
- McGregor, C. & Christie, B. (2021) Towards climate justice education: Views from activists and educators in Scotland. *Environmental Education Research*, 27(5), 652-668.
- Priestley, M. & Minty, S. (2013) Curriculum for Excellence: 'A brilliant idea, but...'. *Scottish Educational Review*, 45(1), 39-52.
- Priestley, M., Edwards, R., Priestley, A. & Miller, K. (2012) Teacher agency in curriculum making: Agents of change and spaces for manoeuvre. *Curriculum inquiry*, 42(2), 191-214.
- Priestley, M., Alvunger, D., Philippou, S. & Soini, T. (Eds) (2021) *Curriculum making in Europe: Policy and practice within and across diverse contexts*. Leeds: Emerald Publishing Limited.
- Rushton, E.A.C., Dunlop, L. & Atkinson, L. (2024) Fostering teacher agency in school-based climate change education in England, UK. *The Curriculum Journal*, 00, 1-16. Available from: <https://bera-journals.onlinelibrary.wiley.com/doi/full/10.1002/curj.253> (Accessed 25 July 2024).
- Scottish Executive (2004) *A Curriculum for Excellence: The Curriculum Review Group*. Edinburgh, Scottish Executive.
- Stirling Centre for Research into Curriculum Making (SCRCM). n.d. Available from: <https://www.stir.ac.uk/about/faculties/social-sciences/our-research/research-groups/stirling-centre-for-research-into-curriculum-making/> (Accessed 8 March 2024).

A Relational Approach to Early Learning and Childcare: Thinking Kinship in the Face of 21st-Century Challenges.

Liz Latto, University of Edinburgh

Educators in Scotland, including within Early Learning and Childcare (ELC) face the daunting challenge of educating children and young people under the shadow of accelerating climate change (Hodgins, 2019; Pacini-Ketchabaw & Taylor, 2015; Taylor & Pacini-Ketchabaw, 2019), increasing pressures of operating within a global, neoliberal marketplace (Moss, 2021; Roberts-Holmes & Moss, 2021) and the uncertainty of a world increasingly dependent on A. I. (Braidotti, 2019; Matusov, 2020). With reported increases in climate or ‘eco’ anxiety across the globe (Crandon, et al., 2022; Hickman, 2024, Hickman, et al., 2021) and the pressures placed on children and childhood in the ‘now “naturalized” and normalized “fast” of daily living’ (Payne, 2018, p.119), educators across all sectors must seek new ways of supporting and educating children and young people. In a call to resist ‘the instrumental and transactional nature of current systems and practices’ Sidebottom ponders ‘what might change for education when we re-inscribe teaching as a process of dealing with multiplicities of bodies-in-relation?’ (Sidebottom, 2021, n.p.). Drawing on posthuman, feminist materialist (PHFM) theories which de-centre the human, Sidebottom joins a growing chorus of voices calling for a (re)turn to a relational way of being and knowing with/in the world to address the existential challenges of the Anthropocene.

Led by feminist thinkers such as Barad (2007) and Braidotti (2013, 2019), what many refer to collectively as *New Materialism*, is characterized by a rejection of dualist thinking such as mind/body, rational/irrational, which has typified much of Western philosophical thought since the Enlightenment and which through colonialism, has contributed to extractivism and the systematic ‘othering’ and suppression of groups of individuals, e.g., women, Black and minority ethnic groups, Indigenous peoples, children, etc. (Braidotti, 2013, 2019; Fox and Alldred, 2017). These theories look beyond the human as a single, subject ‘I’ and by conceptualizing all matter as agentic and acknowledging all bodies (human, non-human, more-than-human) as having agency and equal ontological status, emphasize the potential for generating new knowledges in a world of increasing complexity:

...the “new” in new materialism does not have to refer to the alleged culmination in a theoretical understanding. Rather, “new” is said to refer both to the newness of the challenges and problems we face due to the complexities of twenty-first century biopolitics and to the novelty and variety of approaches that these challenges call for (Rautio, 2013, p.398).

By foregrounding the relationality of how humans exist with/in/on the world, PHFM theories shift the focus from the individualized human towards how we emerge through intra-acting with others. This requires an ethical response which considers all entities with/in/on the world as having equal ontological status as all are entangled and connected with other(s). As Barad (2007, p.185) writes:

There is an important sense in which practices of knowing cannot fully be claimed as human practices, not simply because we use nonhuman elements in our practices but because knowing is a matter of part of the world making itself intelligible to another part. Practices of knowing and being are not isolable; they are mutually implicated. We don't obtain knowledge by standing outside the world; we know because we are of the world.

Thus, for Barad, being, knowing and acting ethically, with response-ability for the world (ethico-onto-epistem-ology), is deeply entwined and results in a deeper engagement with questions of social and climatic justice and the removal of hierarchical practices, which includes disrupting taken-for-granted binaries such as human/non-human and adult/child. Drawing inspiration from PHFM theories, Murriss troubles the reified, (dis)embodied child/ren through the neologism 'iii.' (2016, p.91). This material discursive (re)positioning of the child as porous, (un)bounded and always emerging un-situates the child/ren as a multiplicity, an entanglement 'constituted by concepts and material forces, where the social, the political, the biological' (ibid.) all intra-act, and with the potential to connect across human, non-human and more-than-human boundaries. In this way, the child/ren is/are fully part of the world, being~becoming. As such, child/ren are in relation with educators, with the understanding that educators are not only/always human. This acknowledgement of educators as being not only/always human calls for us to enact relations of kinship with other entities we share the planet with.

Along with other PHFM theorists, Haraway (2003, 2016) questions the notion of humans as separate, bounded individuals, distinct from other life systems on the planet. Acknowledging the interconnectivity across species and: '... organic beings such as rice, bees, tulips, and intestinal flora, all of whom make life for humans what it is – and vice versa' (Haraway, 2003, p. 15), Haraway (2016) emphasises the need to live ethically and to 'make kin' with the human, the non-human and more-than-human to work towards a more sustainable, multi-species world. Kinship therefore extends beyond ties of family and species but encompasses all creatures and the built and living environment (Albin-Clark, *et al.*, 2021; Latto, *et al.*, 2022; Haraway, 2016; Ovington, *et al.*, forthcoming). By enacting a generous and affirmative kinship which extends beyond the human, educators can embrace the non and

more-than-human as part of the relationality and entanglement of knowledge-making praxis which has social and climate justice at its core.

This work is not for the fainthearted. Heavily critiqued as being dense, elitist (Strom & Mills, 2021; Taylor & Hughes, 2016) and at risk of (re)inscribing the very dualisms they seek to disrupt (Bhattacharya, 2021; King, 2017; Sundberg, 2014; Todd, 2016; Jackson, 2015), using PHFM theories often require (un)learning ways of thinking and being that are so entrenched as to have become axiomatic. It requires a commitment to learning along with children and others and to be response-able for past/present/future actions. This includes acknowledging the ongoing damage caused through extractive, colonial and neocolonial practices and to commit to acknowledging and amplifying the voices of those *othered* through these. With/in ELC in Scotland there is evidence of such practices of care, where:

a politics of care engages much more than a moral stance; it involves affective, ethical and hands-on agencies of practical and material consequence

(Puig de la Bellacasa, 2017, p.4).

Care is therefore an act of rebellion, of pushing against the dominant discourses which position children as past/present/future consumers or as objects subjected to epistemic injustice (Murriss, 2016). In calling for a slow pedagogy in early years education, Clark (2023) resists the incessant demands of ever shortening time on children's lives, (re)turning to a more gentle way of being in the world. In drawing our attention to what she calls 'invisible education,' Quinn (2024, p.1) sees education escaping from the boundaries of our schools and nurseries and emerging from the everyday, mundane experiences of life which cannot be measured and yet, resonate across space and time. In the emergence and spread of forest and outdoor ELC education, the *situatedness* of learning becomes more apparent. Learning with/in a particular place/space/time is experienced through embodied, sensorial praxis. However, caution must be exercised again, so educators do not (re)inscribe discourses of the child as innocent or natural, or binaries such as nature/culture, or indeed that 'nature' is natural (Nxumalo, 2015).

In her introduction to 'Posthuman Knowledge,' Braidotti (2019) acknowledges that the predicament of the earth, and all the entities which exist with/in/on it, can appear overwhelming and catastrophic. However, she points out that this 'posthuman convergence' is producing significant developments, creating myriad pathways for new ways of thinking and being of/with the world:

I am posthuman – all-too-human. This means that I am materially embodied and embedded, with the power to affect and be affected, living in fast-changing posthuman times.

(Braidotti, 2019, p.5)

Through engaging with PHFM theories and acting ethically, with response-ability and a praxis of care, as educators we can continue to work with children and young people and learn to live sustainable and in kinship with the human, the non-human and more-than-human of this world in continued kinship.

References

- Albin-Clark, J., Latto, L., Hawxwell, L. & Ovington, J. (2021) *Becoming-with response-ability: How does diffracting posthuman ontologies with multi-modal sensory ethnography spark a multiplying femifesta/manifesta of noticing, attentiveness and doings in relation to mundane politics and more-than-human pedagogies of response-ability?*, *entanglements*, 4(2), 21-30. Available from: <https://sure.sunderland.ac.uk/id/eprint/14516/1/6-becoming-with-response-ability.pdf>.
- Barad, K. M. (2007) *Meeting the universe halfway: quantum physics and the entanglement of matter and meaning*. Durham: Duke University Press.
- Bhattacharya, K. (2021). 'Rejecting labels and colonization: In exile from post-qualitative approaches', *Qualitative Inquiry*, 27(2), 179–184.
- Braidotti, R. (2013) *The Posthuman*. Cambridge: Polity Press.
- Braidotti, R. (2019) *Posthuman Knowledge*. Cambridge: Polity Press.
- Clark, A. (2023) *Slow Knowledge and the Unhurried Child: Time for Slow Pedagogies in Early Childhood Education*. Abingdon: Routledge.
- Crandon, T.J., Scott, J.G., Charlson, F.J. & Thomas, H.J. (2022) A socio-ecological perspective on climate anxiety in children and adolescents. *Nature climate change*, 12(2), 123-131.
- Fox, N. J. & Alldred, P. (2017) *Sociology and the New Materialism: Theory, Research, Action*. Los Angeles and London, SAGE.
- Haraway, D. J. (2003) *The companion species manifesto: dogs, people, and significant otherness*. Chicago: Prickly Paradigm Press.
- Haraway, D. J. (2016) *Staying with the trouble: making kin in the Chthulucene*. Durham: Duke University Press.
- Hickman, C. (2024) Eco-Anxiety in Children and Young People – A Rational Response, Irreconcilable Despair, or Both? *The Psychoanalytic Study of the Child*, 77(1), 356-368.
- Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R.E., Mayall, E.E., Mellor, C. & van Susteren, L. (2021) Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *The Lancet. Planetary Health*. 5(12), e863-e873.

- Hodgins, B.D. (Ed) (2019) *Feminist Research for 21st-Century Childhoods: Common Worlds Methods*. London: Bloomsbury.
- Jackson, Z. I. (2015). Outer worlds: The persistence of race in movement “beyond the human”, *Gay and Lesbian Quarterly*, 21(2–3), 215–218. Available from: muse.jhu.edu/article/582032. (Accessed 25 July 2024).
- King, T. L. (2017). Humans involved: Lurking in the lines of posthumanist flight, *Critical Ethnic Studies*, 3, 162–85. Available from: <https://doi.org/10.5749/jcritethnstud.3.1.0162> (Accessed 25 July 2024).
- Latto, L., Ovington, J., Hawxwell, L., Albin-Clark, J., Isom, P., Smith, S., Ellis, S. & Fletcher-Saxon, J. (2022) Diffracting Bag Lady Stories and Kinship: Cartographing and Making-With Others in More Than-Human Affirmative Spaces, *Cultural and Pedagogical Inquiry*, 14(1), 152–165.
- Matusov, E. (2020) *Envisioning Education in a Post-Work Leisure-Based Society: A Dialogical Approach*. Cham, Switzerland: Palgrave Macmillan
- Murris, K. (2016) *The Posthuman Child: Educational transformation through philosophy with picture books*. London and New York: Routledge.
- Nxumalo, F. (2015) Forest Stories: Restorying Encounters with “Natural” Places in Early Childhood Education. In Pacini-Ketchabaw, V. & Taylor, A. (Eds) (2015) *Unsettling the Colonial Places and Spaces of Early Childhood Education*. Abingdon, Oxon.: Routledge. pp. 21-42.
- Ovington, J. A., Albin-Clark, J., Latto, L. & Hawxwell, L. (in Press). Disrupting qualitative research. A bag-lady-narrative-methodology, *Routledge Encyclopedia of Research Methods*. London: Routledge.
- Pacini-Ketchabaw, V. & Taylor, A. (2015) *Unsettling the Colonial Places and Spaces of Early Childhood Education*. Abingdon, Oxon.: Routledge.
- Payne, P.G. (2018) Early Years Education in the Anthropocene: An Ecophenomenology of Children’s Experience. In M. Fleer and Bert van Oers (Eds) (2018) *International Handbook of Early Childhood Education*. Dordrecht: Springer. pp. 117-162.
- Quinn, J. (2024) *Invisible Education: Posthuman Explorations of Everyday Learning*. Abingdon. Oxon.: Routledge.
- Roberts-Holmes, G. & Moss, P. (2021) *Neoliberalism and Early Childhood Education: Markets, Imaginaries and Governance*. London and New York: Routledge.
- Rautio, P. (2013) Children who carry stones in their pockets: on autotelic material practices in everyday life, *Children’s geographies*, 11(4), 394–408.

Sidebottom, K. (2021) Education for a More-Than-Human World. *Europe Now*. Available from: <https://www.europenowjournal.org/2021/11/07/education-for-a-more-than-human-world/> (Accessed 25 July 2024).

Strom, K. & Mills, T. (2021) Affirmative Ethics and Affective Scratchings: A Diffractive Review of Posthuman Knowledge and Mapping the Affective Turn, *Matter: Journal of New Materialist Research*, 2(1), 200–223.

Sundberg, J. (2014) Decolonizing posthuman geographies, *Cultural Geographies*, 21(1), 33–47.

Taylor, C. A. & Hughes, C. (Eds) (2016) *Posthuman Research Practices in Education*. Hampshire: Palgrave Macmillan.

Taylor, A. & Pacini-Ketchabaw, V. (2019) *The Common Worlds of Children and Animals: Relational Ethics for Entangled Lives*. London and New York: Routledge.

Todd, Z. (2016). An indigenous feminist's take on the ontological turn: 'Ontology' is just another word for colonialism, *Journal of Historical Sociology*, 29(1), 4–22.