Against 'progress'

Hilary Povey and Corinne Angier

Abstract

In England we are currently in the grip of a damaging hegemonic discourse in the field of education. Unquestionable goods include *standards*, *aspiration*, *effectiveness*, *measurable performance* and – the subject of this contribution - *progress*. We discuss how *progress* is currently understood and deployed within the educational landscape in England and draw connections between this and the framing of 'catch-up', of 'being left behind' and of 'lost learning' in the government's response to education and the pandemic. We then argue for other ways of understanding education and suggest that two key aspects of understanding education as non-linear and non-teleological are love for the world and hope-in-the-present.

Keywords: Progress; standards; neoliberal education; testing; funds of knowledge



A Klee painting named 'Angelus Novus' shows ... the angel of history. His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe which keeps piling wreckage and hurls it in front of his feet ... a storm is blowing in from Paradise; it has got caught in his wings with such a violence that the angel can no longer close them. The storm irresistibly propels him into the future to which his back is turned, while the pile of debris before him grows skyward. *This storm is what we call progress*. (Benjamin, 1955, n.p. emphasis added). ¹

Introduction

We are very familiar with the idea that individual words do not carry all their meaning simply inside themselves. We recognise this difficulty not least every time we come to translate a text from one language to another. Every word carries with it a penumbra of meanings, most of which we do not bring specifically to our attention when we speak or write, and some of which we may never have articulated to consciousness. We also experience words gradually changing their meaning over time as people appropriate words and phrases to fit new contexts or to replace words that have become so heavily

freighted with diverse meanings that they fail to communicate anything.

Equally, at least since Michel Foucault (for example, Foucault, 1974), we know that the discourses in which the words are embedded are not innocent or value-free. They constrain what it is possible to say and to think at the same time as they conceal their own invention; they create and belong within social contexts where power and knowledge circulate. Discourses are intimately related to issues of power and domination, with hegemonic discourses serving the interests of the powerful: things are as they are and cannot be thought of as being otherwise (Ball, 1990). In England we are currently in the grip of a neoliberal hegemonic discourse in the field of education. Unquestionable goods include *standards*, *aspiration*, *effectiveness*, *measurable performance* and – the subject of this contribution – *progress*.

We critique the current deployment and understanding of *progress* in the English educational system, arguing that it reflects a fundamental misconception of the nature and purpose of education, one which understands education as a consumer product rather than a moral enterprise for the common good. And it is this understanding of progress that is underlying the ideas of children 'catching up' and 'not being left behind' repeated unquestioningly by politicians and the media alike. We argue against this sense of education as a single-track race to be run and for an understanding of education as non-linear and non-teleological. The concepts of *love for the world* and of *hope-in-the-present* give some purchase on such an alternative framing and support the acknowledgement that 'education is needed to help students develop the judgement and wisdom to deal with the complexities and contingencies of living well in the world' (Griffiths and Murray, 2017, p41).

The current educational landscape in England and progress

For several decades, education in England has been colonised by neoliberal thinking. Markets hold sway, framing the whole educational enterprise, and all sectors of education are governed by the policy technologies of managerialism and performativity (Ball *et al.*, 2012). A Foucauldian regime of truth has made normal the idea that everything of value can and should be measured; the 'performance' of children, teachers and schools is subjected to 'micro-disciplinary techniques' (Hall and Noyes, 2009, p851) of surveillance and normalising judgements. The measures change frequently and relentlessly, making those being judged uneasy and absorbing time, attention and energy. Money is spent on 'analytics' that 'drill down' to individual students and that create comparisons with hundreds of other schools.³ And these performance measures must all show that schools, teachers and children have all made progress.

Schools become places where professionals find themselves acting not in accordance with their professional judgement and their educational values (Gillborn and Youdell,

2000; Goodley, 2019) but in order to meet the 'performance' targets set by others. Ofsted, the government service which polices the English education system (Perryman, Maguire, Braun and Ball, 2018), valorises schools' performance through its progress data which is published in the form of a suite of complex statistical measures whose inputs are national tests and demographic data.⁴ Its *School Inspection Handbook* (Ofsted, 2019) illustrates forcibly the discourse of progress at work. There are fifty-six references to progress in the document, all but two of them referring to progress of schools or pupils. The handbook is wholly framed within the automatic requirement that schools must be making progress since their last inspection. Never-ending progress between one school inspection and the next is required – it is simply not conceivable that improvement in progress and assessment data might not be necessary.

The performativity regime for teachers puts enormous pressure on them (Povey and Adams, 2018) to fabricate themselves in conformity with neoliberal demands, to reform and regulate their subjectivities, to work intensively on the self in order to perform an effective, enterprising identity (Ball, 2003). Constant, individualised progress is essential: it becomes necessary 'to compete permanently with oneself' (Montecino and Valero, 2017, p150) in order to improve against goals externally defined and measured but internally experienced. The extreme impact of this discourse is exemplified by teachers of five-year-olds withholding playtime from children who have made insufficient progress. We were told this story by a practising teacher, Hannah, who always let her children out to play because she understood its importance for them, even though it was against school policy. The potential shame experienced by the teachers when the children's books were scrutinised outweighed any human acknowledgement of the cruelty of punishing a child in this way.

Whilst recognising the impact of neoliberal understandings of progress on schools and teachers, here we are particularly concerned with how the progress agenda shapes the schooling of children. For children, an epidemic of testing to measure progress, beginning at age four and continuing throughout their school life, frames their experience of schooling and their understandings of themselves within it. Children in the United Kingdom remain amongst the lowest in Europe for their declared educational well-being (UNICEF, 2013). No doubt partly exacerbated by the Covid-19 pandemic and the government's inconsistent and chaotic approach to schooling, combined with its failure to adequately address issues of disadvantage, the self-harm rate among children aged nine to twelve has doubled in the last six years, with children in poverty and black children particularly affected (Marsh, 2021).

The policy answer to low attainment is analogous to the medical model of disability. The child is the problem that needs to be fixed. It might seem logical given the strong correlation between poverty and low educational attainment – 'the better off you and your family are the more likely you will do well in school' (Valero *et al.*, 2015, p286) that

the solution would be to focus on eradicating poverty. Instead, meagre funding is given to intervene with the children and train them to perform in the next test.

The focus on testing that is supposed to measure progress leads to a great deal of teaching to the test and consequent severe narrowing of the curriculum. The curriculum itself is framed in such a way that it lends itself to and specifically enables the measuring of progress. Progress is always towards previously defined endpoints (Ofsted, 2019, p24) and, when inspecting schools, Ofsted wants to assess if 'pupils are learning the curriculum and making progress in the sense of knowing more, remembering more and being able to do more' (p26).

In the prevailing discourse, what all these understandings of progress – of schools, teachers and children – have in common is that they measure 'performance' in response to measurable goals originating from and assessed by sources external to those being assessed. All depend ultimately on children's responses to a very narrow set of tests. The fine detail of the outcomes of these tests is of more consequence to the schools and teachers than to the children themselves.⁵ Many schools generate a 'flight path' for children which describes exactly what they are expected to achieve at each future testing stage, and their progress is measured against this. This leads to a labelling of children as 'at expected' (progress) or not, with the latter always liable for 'intervention'. Each child becomes, for example, a few cells on a spreadsheet coloured red, amber or green or a labelled coordinate on a two-way grid in order to indicate satisfactory progression or otherwise. The discourse of progress leaves even high-attaining children feeling vulnerable and only as good as their latest test score (Dweck, 2002).

The progress of individuals is always couched in terms of achieving their potential, but in fact the 'rewards' of progress are rationed (approximately 30 per cent must fail the comparable GCSE mathematics, because it is assessed by comparable outcomes).⁶ So one child or one school can only make progress if someone else in the system fails to do so. When working hard does not achieve the promised rewards it is the individual's fault for simply not making enough progress.

Saying no to progress

An anecdote. The motivation for this article came from a discussion the authors had following attendance at a research conference. Hilary had attended a session reporting on a study of problem-solving in primary mathematics. The presenter initially spoke of valuing such activity because it gave space for children to experience creativity, insight, originality and using their imagination. But talk soon turned to the vital need for a way of measuring 'clear progression in problem-solving skills'. It seemed to us, first, that there is no such thing; and, second, that any attempt to implement a quasi or proxy measure would be likely to destroy the very things that were being initially valued. This led us to

discuss why progress is always/usually/so often assumed to be an untrammelled good.

Whilst questioning *progress*, as in the current hegemonic discourse, we note that it shares a linguistic root with *progressive* that has a long history in education of meaning something very different and not incompatible with social justice. The notion of progress giving rise to progressive education includes, for example: approaching learners holistically (Pestalozzi, 1801/1894); understanding learning as fundamentally social (Dewey, 1916); with Loris Malaguzzi, understanding learners as active, curious and powerful (Cagliari *et al.*, 2016); rejecting 'banking' education, (Freire, 1972); and understanding learning as transformative and without limits (Hart *et al.*, 2004). That progress has come to be seen as the greatest good while progressive education is seen as an evil demonstrates the complexity of language we alluded to at the start of this piece.⁷

Hannah Arendt writes about an 'eighteenth century notion of progress, as conceived in pre-revolutionary France ... [which] culminated in the emancipation of man (*sic*)' (Arendt, 1951/2017, p186). But she contrasts this with, and is deeply critical of, the nineteenth century 'progressive' ideology of the bourgeoisie which sees progress as the exploitation of the earth to generate the never-ending accumulation of capital. She quotes Cecil Rhodes: "Expansion is everything," said Cecil Rhodes, and fell into despair, for every night he saw overhead "these stars ... these vast worlds which we can never reach. I would annex the planets if I could" (Arendt, 1951/2017, p160).

The shift from the eighteenth-century enlightenment view of the progress of humankind through scientific enquiry and towards greater justice to a nineteenth-century view of industrial progress through technological improvement has educational parallels. For the community, the aim has moved from living well to maximising capital. For the individual, the aim has moved from cultivating the self (*bildung*) to accumulating qualifications which can be cashed in for opportunities to earn money.

Nineteenth-century progress is boundless, inexorable and irresistible (Benjamin, 1955, Section XIII, n.p.), a progress which is the forerunner of the free market/neoliberal discourse of education which casts a long shadow on schools. And it is this notion of progress that is being deployed in the way that the government's response (and that of many others) to education and the pandemic is being framed in terms of 'catch-up', of 'being left behind' and of 'lost learning'. Peter Gates has pointed out the nonsensicality of 'lost learning' (2021) and Jo Byrd asks us to consider, if the learning is lost, perhaps it was never learnt in the first place (2020).

During the pandemic children will have learned a great deal in the time that has been freed up from being drilled for tests. Sadly, there has been very little suggestion that this learning, these *funds of knowledge* (Moll, Amanti, Neff and Gonzalez, 1992), might be welcomed, reflected on (for some of this new learning may have been painful) and used. It simply does not count, and so what may be one of the most significant

experiences in the lives of these children is deemed irrelevant in the race to get back to preparing for tests.

Holding on to education as a collaborative moral enterprise: love for the world and hope-in-the-present

But suppose rather than being a pre-set (race) course along which the learner must run, we use a different metaphor to characterise learning. Suppose learning is like exploring a garden where one's path is determined by curiosity and inclination with no pregiven route and no finalised list of what is to be seen, thought about and understood, knowledge rich but not prescribed knowledge. Then the concepts of catching up and not being left behind cease to have meaning. Rather than, as now, teachers being constructed as race marshal/coach/box ticker (a way of being, of course, which many teachers in the here and now resist, offering to their children a space of real learning and joy), educating would be understood as helping learners to appreciate that 'there is something good in the world' (Vlieghe and Zamojski, 2019a, p523), in the garden, if you will, that needs affiliation, care and tending and is worthy of study: *love for the world*. And if learning became infused with joy, with care for others and with teacherly love, a mixture of *agape* and *philia*, supporting learning how to live well in the here and now (Griffiths and Murray, 2017): *hope-in-the-present*.

Education as love for the world

In threatening, and in the short-term curtailing, so much human activity both Covid-19 and extreme weather events have focused attention on our interdependence. In the global north we have been reminded of our fundamental needs and challenged to articulate the purpose of education, work and the arts. Arendt famously calls on educators to 'teach children what the world is like not instruct them in the art of living' (quoted in Murray and Griffiths, 2017 p45). But if all we teach is how evil and corrupt the world is then there is little reason for children to respect and care for it or, indeed, perhaps for each other.

With others, we propose instead the need to work on ourselves and with our children to open ourselves up to love for the world, to identify what we value and want to protect (Hodgson, Vlieghe and Zamojski, 2018): '[t]eaching is first and foremost about showing to the next generation that something is intrinsically good and worth preserving' (Vlieghe and Zamojski, 2019b, p160). This entails a fundamental shift from how we have been taught to think about the world, that is, as something for us to exploit, either selfishly for our own individual betterment or, at its best, for the good of humankind. UNESCO's *Futures of Education* initiative calls for education to facilitate a paradigm shift away from 'learning about the world in order to act upon it' (2019, p2; and see Peres,

2020), which stems from this Western Cartesian dualism, to learning to become *with* the world. We need to let the world speak to us, to experience ourselves as 'caught in its regard and not just vice versa' (Jardine, 2012, p101). The notion of human and planetary inseparability is not a new one across the globe and through history. This reimagining of human agency might also be called decolonising, unlearning or rewilding our destructive relationships with each other and with the planet that sustains our life. The world is our neighbourhood where we need to: 'recover ... the skill of living with and in the neighbourhood that is our world ... "Neighbourhood", "neighbourliness" – we all understand pretty much what such words mean, and their prosaic character is itself a reminder that finding a new and fuller way of being human ... is about settling to inhabit where we are and who we are' (Williams, 2019, p183-184).

This call to live differently now gives hope-in-the-present (Vlieghe and Zamojski, 2019b).

Education as hope-in-the-present

Living well in the world requires relating to the world and also learning to have love for it and for others, and learning to care about their good; learning to mind for and about both (Griffiths and Murray, 2017). In order to embrace living well, we need hope: 'without hope educating simply doesn't make sense' (Vlieghe and Zamojski, 2019b, p163). Hilary has argued elsewhere for the importance in education of utopian imagining, imagining that can help us in intuiting changes potentially immanent in the present and in glimpsing the speculative perhaps (Povey and Adams, 2018). Such utopianism does not narrow or dictate the future possible; it is a hope 'that the good and the beautiful will somehow thrive, that there is a future after all – but not any specified future' (Vlieghe and Zamojski, 2019b, p163). It thus entails 'a principled normativity', in asserting that there are principles to defend, rather than 'a procedural normativity', which prescribes the path to follow (Hodgson, Vlieghe and Zamojski, 2018, p15). It implies a trust that those who will build that future, our children, if educated to have love for the world and to value themselves and each other through experiencing hope-in-the-present, are those to whom the path to the future may safely be left.

We see wisdom in the adage that hope deferred maketh the heart sick – it also needs to be lived now as hope-in-the-present. This immanent conception of hope makes possible 'a change in how we live, individually and collectively (Vlieghe and Zamojski, 2019b, p164) with 'a fresh sense of the delight to be found in human and non-human creation alike, a fresh sense of the importance of living in attunement with who we are and what the world is' (Williams, 2019, p183). This is not to suggest an acceptance of the *status quo* but does entail 'an affirmation of the value of what we do in the present' (Hodgson, Vlieghe and Zamojski, 2018, p18).

Hope-in-the present by no means entails shutting our eyes to the injustices and oppressions of the world. But it does entail learning about 'how to mind about the good of others' in the here and now, and to appreciate that joy, love for each other and justice are all dependent on each other as 'even small children' know (Griffiths and Murray, 2017, p44).

Conclusion

Our intentions here have been philosophical rather than practical. We have argued that the government's response to children's education during the pandemic is framed by a particular conception of education as *progress*: conceiving education as measured progress along a predetermined track structures and determines that response in terms of 'catch-up', 'being left behind and 'lost learning'. We have argued that this is both a damaging metaphor and also one which mis-identifies what it is to educate. We do not conform to this notion of progress – Walter Benjamin's irresistible stormy gale – and wish to become, in Arendt's words 'a dangerous nuisance' (1951/2017, p187). We suggest resistance to linear progress in schools runs parallel to resistance to infinite economic growth and resource depletion.

Vlieghe and Zamojski (2019b, p160) call for education to be released from its 'colonisation' by 'an alien political logic' and to have its own proper logic restored. Part of that logic must include holding on to hope-in-the-present and love for the world. We call for a rewilding of the imagination (Knights, 2019) to envisage and implement an education informed by this logic. A good place to start, instead of subjecting children to tuition in how to catch up on tests, might be the funding of community arts and health projects over the summer, allowing children and their families to celebrate what the pandemic has made clear: that we care about each other and the natural world of which we are a part.

Notes

- 1. Downloaded from Angelus Novus Wikipedia under the Creative Commons Attribution-Share Alike 3.0 Unported licence.
- 2. It is also worth noting that over half the money (hundreds of millions of pounds is promised (Murphy, 2021)) for this catch-up programme is to be given to unregulated private tutor agencies (Reay, 2020) whose express purpose is often to teach to the test. It may also involve potentially inappropriate tutors who themselves are subject to exploitation (Weale, 2021).
- 3. SISRA Services | School's Data Solutions Provider | SISRA Ltd
- 4. These measures can be interrogated here: https://www.compare-school-performance.service.gov.uk/

- 5. The DfE maintains a data summary for every school (see: https://www.gov.uk/guidance/school-inspection-data-summary-report-idsr-guide#overview-of-the-idsr_) which is aligned with the Ofsted criteria.
- 6. 'It is clear that the way in which we grade GCSE exams is fundamentally norm-referenced, or more precisely cohort-referenced in nature' (Mannion, 2017, n.p.); and see Ofqual 2019.
- 7. This misapplication of the term *progressive* and its use as a derogatory epithet has been occurring at least since the Black Papers (a series of five papers published from 1969 onwards and compiled by Cox and Dyson in 1971). A more recent denunciation (2008) came from the then secretary of state for education, Michael Gove: https://www.theguardian.com/education/2008/may/09/schools.uk. It is also possible, of course, to criticise some versions of progressive education as paying insufficient attention to issues of power and injustice and to indigenous knowledges.

References

Arendt, Hannah (1951/2017) The origins of totalitarianism. UK: Penguin.

Ball, Stephen (ed.) (1990) Foucault and education: Disciplines and knowledge. London: Routledge.

Ball, Stephen (2003) 'The teacher's soul and the terrors of performativity', *Journal of Education Policy*, 18(2), 215-288.

Ball, Stephen, Maguire, Meg, Braun, Annette, Perryman, Jane, & Hoskins, Kate (2012) 'Assessment technologies in schools: "deliverology" and the "play of dominations", *Research Papers in Education*, 27(5), 513-533.

Benjamin, Walter (1955) (published posthumously) *On the concept of history* (often referred to as *Theses on the philosophy of history*), available at: https://www.sfu.ca/~andrewf/CONCEPT2.html

Byrd, Jo (2020). 'Imagining a "new normal" free from judgement and blame: creating sustainable partnerships with students and parents', *FORUM*, 62(3), 345-352. http://dx.doi.org/10.15730/forum.2020.62.3.345

Cagliari, Paola, Castagnetti, Marina, Giudici, Claudia, Rinaldi, Carlina, Vecchi, Vea and Moss, Peter (eds) (2016) *Loris Malaguzzi and the schools of Reggio Emilia: A selection of his writings and speeches, 1945-1993*, London: Routledge.

Cox, Brian and Dyson, A.E. (eds) (1971) *The Black Papers on education,* London: Davis-Poynter.

Dewey, John (1916/2007) Experience and education, New York: Simon and Schuster.

Dweck, Carole (2002) Beliefs that make smart people dumb, R. J. Sternberg, Why smart people can be so stupid, Yale: Yale University Press.

Foucault, Michel (1974) The archaeology of knowledge, London: Tavistock.

Freire, Paulo (1972) Pedagogy of the oppressed, Harmondsworth: Penguin.

Gates, Peter (2021) Peter Gates [@petergates3] (7 March 2021,). 'All this talk about "learning loss". It's like all the claims about "the debt". No one knows what the hell it means and when you look into it you find its a nonsense. Funny it's the same people in both cases. Populists trying to divert attention in favour of the rich and powerful'. [Tweet]. Twitter. https://twitter.com/petergates3/status/1368499076619198464

Gillborn, David and Youdell, Deborah (2000) *Rationing education: Policy, practice, reform and equity*, Buckingham: Open University Press.

Goodley, Clare (2019) *Beyond the terrors of performativity: Teachers developing at the interface* (unpublished doctorate), Manchester Metropolitan University.

Griffiths, Morwenna and Murray, Rosa (2017 'Love and social justice in learning for sustainability', *Ethics and education*, 12(1), 39-50.

Hall, Christine and Noyes, Andrew (2009) 'New regimes of truth: The impact of performative school self evaluation systems on teachers' professional identities', *Teaching and Teacher Education*, 25(6), 850-856.

Hart, Susan, Dixon, Annette, Drummond, Mary Jane and McIntyre, Donald (2004) *Learning without limits*, Maidenhead: Open University Press.

Hodgson, Naomi, Vlieghe, Joris and Zamojski, Piotr (2018) *Manifesto for a post-critical pedagogy*, Earth, Milky Way: punctum books.

Jardine, David (2012) Pedagogy left in peace: Cultivating free spaces in teaching and learning, London: Continuum.

Knights, Sam (2019) *Introduction: The story so far,* C. Farrell, A. Green, S. Knights and W. Skeaping (eds.), *This is not a drill; an extinction rebellion handbook* (181-184). UK: Penguin Random House.

Mannion, James (2017) Is everyone OK with fact that our school system forces 30% of children to fail their GCSEs? available at: https://rethinking-ed.org/is-everyone-ok/

Marsh, Sarah (2021) 'Self-harm rate among young children in UK doubles in six years', *The Guardian*, 16 February 2021.

Moll, Luis, Amanti, Cathy, Neff, Deborah and Gonzalez, Norma (1992). 'Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms', *Theory into practice*, *31*(2), 132-141.

Montecino, Alex and Valero, Paola (2017) 'Mathematics teachers as products and agents: to be or not to be. That's the point!', H. Straehler-Pohl, N. Bohlmann and A. Pais (eds.), *The disorder of mathematics education: Challenging the sociopolitical dimensions of research.* (135-152). Switzerland: Springer.

Murphy, Simon (2021) 'You're doing an incredible job, Johnson tells home schoolers', *The Guardian*, 30 January 2021.

Of qual (2019) $\it Guide$ to GCSE results for England, 2019: Guide to GCSE results for England, 2019 - GOV. UK (www.gov.uk) Ofsted (2019) School inspection handbook, available at: www.gov.uk/government/ organisations/ofsted

Peres, Sonya (2020) "They say, education is the practice of freedom": an overview of the Climate Commission-led student stakeholder discussions for UNESCO's Futures of Education', UNESCO, available at: https://www.eauc.org.uk/futures_of_ education

Perryman, Jane, Maguire, Meg, Braun, Annette and Ball, Stephen (2018) 'Surveillance, governmentality and moving the goalposts: The influence of Ofsted on the work of schools in a post-panoptic era', British Journal of Educational Studies, 66(2), 145-163.

Pestalozzi, Johann (1801/1894) How Gertrude teaches her children, London: Swann Sonnenschein.

Povey, Hilary and Adams, Gill (2018) 'Possibilities for mathematics education? Aphoristic fragments from the past', *The Mathematics Enthusiast*, 15(1) 159-177, available at: https://scholarworks.umt.edu/tme/vol15/iss1/10

Reay, Diane (2020) 'English education in the time of coronavirus', FORUM, 62(3), 311-322. http://dx.doi.org/10.15730/forum.2020.62.3.311

UNESCO (2019) 'Learning to become with the world: education for future survival', available at: https://unesdoc.unesco.org/ark:/48223/pf0000374032?posInSet=1&quer vId=N-EXPLORE-ee55c74e-8cbf-4149-abf9-9b0fc4c5b2f4

UNICEF (2013) The well-being of children: How does the UK score? (Report Card 11), available at: https://www.unicef.org.uk/publications/report-card-11-childwellbeing-what-do-you-think/

Valero, Paola, Graven, Mellony, Jurdak, Murad, Martin, Danny, Meaney, Tamsin and Penteado, Miriam (2015) 'Socioeconomic influence on mathematical achievement: What is visible and what is neglected, S. Cho (ed.) Proceedings of the 12th International Congress on Mathematical Education, (285-301). New York: Springer.

Vlieghe, Joris and Zamojski, Piotr (2019a) 'Out of love for some-thing: An ontological exploration of the roots of teaching with Arendt, Badiou and Scheler', Journal of Philosophy of Education, 53(3), 518-530.

Vlieghe, Joris and Zamojski Piotr (2019b) Towards an ontology of teaching, Switzerland: Springer Nature. https://doi.org/10.1007/978-3-030-16003-6_10

Weale, Sally (2021) 'UK tutoring scheme uses under-18s in Sri Lanka paid as little as £1.57 an hour', The Guardian, 19 March 2021, available at: https://www.theguardian. com/education/2021/mar/19/uk-tutoring-scheme-uses-sri-lankan-under-18s-paidas-little-as-157-an-hour

Williams, Rowan (2019) Afterword, C. Farrell, A. Green, S. Knights and W. Skeaping (eds.), This is not a drill; an extinction rebellion handbook. (181-184). UK: Penguin Random House.

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