The role of adult education and learning policy in fostering societal sustainability

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Abstract The idea of "sustainability" as a core value has slowly permeated policy and practice at governmental and institutional levels, in public and private policy. However, at times when social and economic crises have revealed the fragility of existing institutions and policies, it is important to consider how sustainability is – and could be – integrated into educational policies. In this theoretical contribution to a special issue on "Societal sustainability", the authors draw on available literature and knowledge. They begin their paper by summarising the conditions under which the concept of "sustainability" entered political discourse in the early 1970s and outline how it has influenced educational research. They then introduce the longstanding debate about the relative role of tradition (in terms of traditional cultural and social order) and change (in terms of efforts to provide learning opportunities for everyone) in adult education. Finally, they argue for a rethinking of the ontology of sustainability: this, they suggest, can shed new light on its relationships with adult education and learning and social justice.

Keywords adult education, adult learning, education policy, sustainable development, societal sustainability

Résumé *((The French translation of the final edited abstract will be added here later))*

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Sustainable development, or the idea that societies can develop by exploiting natural resources in ways which "meet present needs without compromising the ability of future generations to meet their needs" (WCED 1987, Section 4, Article 27), has become a mantra in

both policy and practice, at governmental and institutional levels, in business as much as in education. The same applies to the concept of sustainability to address the ability of creating and maintaining the conditions under which sustainable development is possible.

Etymologically, both the adjective ("sustainable") and the noun ("sustainability") have a long history, as they are derived from the ancient Latin verb *sustinere*, "to hold up, hold upright, uphold, to bear up, keep up, support, sustain" (Lewis and Short 1879, p. 1822). *Sustinere* is composed from *tenere*, "to hold, keep ..." (ibid., p. 1853), and sub, "under, below, beneath, ..." (ibid., p. 1772). The verb was already in use in medieval French, and derivations can be found in several Romance languages such as French (*soutenir*), Italian (*sostenere*), Portuguese (*suster*) or Spanish (*sostener*), and other languages like English (*sustain*). However, neither the adjective nor the noun made their official appearance in the vocabulary of environmental and social scientists until the 1970s (OED 2016), when an informal network of politicians, businessmen and scientists from the Global North (e.g., the United States of America and Europe), still active today under the name "Club of Rome", published *The limits to growth: A report for the Club of Rome's project on the predicament of mankind.* (Meadows et al. 1972).

Ever since, sustainable development, and the conditions by which it can be upheld, have turned into a core value which has slowly permeated governmental and institutional thinking, in business as well as education; and it is now intrinsically linked with the ways societal problems are thought of and addressed in private and public policy. However, at times when social and economic crises have revealed the fragility of existing policies and institutions, it is imperative to consider how societal sustainability is – and could be – better integrated into adult education and learning policy, and to do so in the multi-level context of the different national, social and cultural environments in which national and transnational levels of governance interact. As a result, the very concept of sustainable development must be put under close scrutiny, drawing on concepts and understandings from different disciplines and identifying strategies and lines of action which could contribute to societal sustainability.

In this theoretical paper, we consider the topic from the perspective of adult education and learning. We begin by addressing the conditions under which the concept of sustainable development entered the political debate and consider how it has influenced research in education. In the main part of our paper, we then argue for rethinking its ontology. First, we denounce the reduction of sustainable development to sustainable (economic) growth (Seghezzo 2009) and consider the centrality of social justice theory to mitigate inequalities in societal development (Rawls 1971, 1985, 1993, 2001); then we show that this aspect has been

a long-standing matter of debate in adult education, and suggest that an awareness of social justice can contribute to understanding sustainability. Finally, we present a framework for conceptualising the ecology of education systems (Bronfenbrenner, 1976) as a key element in creating and maintaining the conditions under which sustainable development is possible. Rethinking societal sustainability in this way, we suggest, can shed new light on the relationships among sustainable development, social justice and the ecology of human development, and, by extension, illuminate the role of adult education and learning policy *in fostering* societal sustainability.

Tracing the roots of sustainable development

Contemporary attention to the fact that societies, as dynamic systems, ought to take into account a number of factors to keep developing and growing can be traced back at least to the publication of *The limits to growth* (Meadows et al. 1972). This seminal Club of Rome report was the first to present to a worldwide audience a computing model purposely created to account for the relations between diverse factors of development and simulated alternative scenarios for growth, based on available resources. Written by Donatella Meadows, an American environmental scientist, Dennis Meadows, an American scientist who construed the model on which the book stands, and Jørgen Randers, a Norwegian scientist devoted to climate issues, *The limits to growth* calculated the consequences of rapid world population growth for the finite resources available. In brief, as one of the authors clarifies in hindsight,

> Limits to Growth said that the environmental impact of human society did increase from 1900 to 1972 because of growth in population size and growth in the environmental impact per person. In other words, the ecological footprint of humanity became heavier because of growth in the number of humans, and because of growth in the amount of resources consumed and pollution generated per person per year (Randers 2005, section Limits to Growth 1, para 1).

Thus, *The limits to growth* drew attention to the fact that natural resources are physically limited and the ecological footprint of humanity would not be able to continue at the same speed and to the same extent as in the past, if the planet and its inhabitants were to survive the (then) present.

Critiques, rejections and positive re-assessments of *The limits to growth* at a 40-year distance notwithstanding (Baldi 2011), sustainable development has been intrinsically associated with the exploitation of natural resources, including oil and agricultural land, or the

ecological footprint of humanity, and has attracted controversial attention from activists, scientists, politicians and inter-governmental organisations. This is also thanks to the World Commission on Environment and Development (WCED), created in 1983 by the United Nations (and dissolved in 1987), which published another seminal report, *Our common future* (WCED 1987).

It was in *Our common future* that the concept of "sustainable development" was first used to address a type of growth strategy which was not disconnected from environmental concerns. As a result, the concept rapidly diffused across the world, also under the influence of the United Nations' World Summit on the Environment, held in Rio in 1992 (UN 1992a, 1992b). Within a few years, this led to the signing of an international treaty on climate change, the Kyoto Protocol of 1997 (UN 1998).

Sustainable development and research in education

The growing political attention to sustainable development has not gone unnoticed in education, partly thanks to the United Nations Educational, Scientific and Cultural Organization (UNESCO). In fact, in the same year the Club of Rome published *The limits to growth*, UNESCO released its report *Learning to be: The world of education today and tomorrow* (Faure et al. 1972). A key "planning document" in the history of UNESCO (Singh 2011), and a landmark in the global history of adult education (Milana 2015), the report addressed the danger besetting the environment and, with it, human co-existence as an educational challenge.

> Technological development has enabled man to solve many problems, but it has had harmful effects on a number of aspects of contemporary life. All over the world, it contributes to environmental deterioration […]. It is not only man's environment but – in the near future – his very fate which may be threatened, and he has already begun to suffer. Rapid changes are winding up tension in people, increasing insecurity, nervous disorders, antisocial behaviour, delinquency and criminality [...] Stimulating awareness of such dangers is a demanding new task for education, but particularly appropriate to it for many reasons and, too often, one that is much underestimated (Faure et al. 1972, pp. 99–101).

Three decades later, the United Nations renewed its efforts in highlighting the role education can play in mitigating environmental peril through launching the United Nations Decade of Education for Sustainable Development (DESD) 2005–2014. UNESCO reiterated its commitment to this strategy in the Bonn declaration by stating that

> through education and lifelong learning we can achieve lifestyles based on economic and social justice, food security, ecological integrity, sustainable livelihoods, respect for all life forms and strong values that foster social cohesion, democracy and collective action (UNESCO 2009, para 5).

These policy initiatives emphasised participatory and critical teaching and learning methods designed to motivate and empower learners to change their behaviour – and take action – for sustainable development to be incorporated in policies – in Europe and the wider world. Accordingly, for the most part, educationalists have first and foremost focused on how teachers for different subjects work with the concept of sustainability in the classroom (Myers 2012), or on how subjects like sustainability or health could be included more fully – rather than as merely "residual" issues – in school curricula, so as to promote "healthy and sustainable actions in their students" (Simovska and Mannix McNamara 2015, p. vii). Moreover, educationalists have also examined the challenges education for sustainable development poses in terms of justice, environment, human rights and citizenship; and the ways higher education institutions as well as social or environmental professional and education organisations treat and respond to them (McFarlane and Ogazon 2011). Sometimes – if rarely – the above strands of literature extend attention beyond the theory which informs educational *praxis* at institutional or individual level, to critically examine education policy development in connection with social, economic and environmental crises.

Rather different is the case with those studies which explicitly address the challenges sustainable development poses at the institutional level, including in terms of adopted pedagogies. These studies question the very purpose and nature of educational institutions and how they respond to the policy agenda on sustainability (Blewitt and Cullingford 2004) by teasing out social-environmental relations. What emerges is a range of transformative approaches to re-thinking teaching and learning of and about the relations between environmental degradation and social conflicts (Misiaszek 2012) or ideas for re-ordering environmental priorities "to think more carefully about pedagogy and how under global and postcolonial conditions, theory can and should inform the practice of education for a sustainable future" (Matthew 2011, p. 236).

At macro level, growing attention is also being given to the effects of social and economic crises, migration flows or climate change on the sustainable development of contemporary societies and lifestyles. Informed, for the most part, by a "capability approach" (Sen 1989; Nussbaum and Sen 1993; Nussbaum 2000), these studies question predominant

paradigms in policy debates on human development. They place an emphasis on the "substantive freedoms" which people value in order to grow old, participate in economic exchange, or engage in political action, rather than on utilitarian aspects or simple access to resources. This way of thinking about human and societal well-being is also found in investigations of lifelong learning policies which contest conventional thinking about the links between education, work and the economy (Brown 2013), or in studies on migrants' adaption to new socio-political and cultural environments which question the conditions for full realisation of a good life in the host country (Webb 2014). This strand of literature often foresees new policy directions and prompts ideas for "reversing policy-making optics" (Livingstone 2012), for valuing the richness of available knowledge, and for avoiding its waste. Moreover, it calls for policies and programmes which focus on challenging the problems which have led to the current crisis, and encourages economic and ecological change for global sustainable development.

In the same line of thinking, we challenge the mainstream conception of sustainable development on which adult education and learning policy draws, including underlying ideas about (economic) growth and prosperity.

Questioning sustainable development for social and intergenerational justice

The concept of sustainable development has been primarily associated with environmental concerns. Nonetheless, these concerns have never been entirely independent of economic matters. Underlying the original claim that natural resources are physically limited and that the ecological footprint of humanity could limit growth was a more subtle assumption about "endless economic growth (in economic value) as long as that growth is not associated with growing physical impacts (e.g., in resource use or pollution output)" (Randers 2005, Introduction, para 5). Such an ontology – the encouragement of economic growth – has strongly conditioned development wordwide, and it remains a source of inspiration for neoliberal reforms of economic and social systems, including education, at both national and international levels.

The same ontology has given rise to the idea of "corporate sustainability", a strategic approach to business that focuses attention on how a company works in its social, cultural and economic environment. The "triple bottom line" was theorised as a model for companies to fully account for the cost of doing business. The first bottom line is a traditional measurement of corporate profit (i.e. the balance between profit and loss), the second bottom line measures

the degree to which a business has been socially responsible throughout its operations, and finally, the third bottom line also calculates the extent to which the company has acted responsibly towards the environment (Elkington 1997). This way of thinking about sustainable development in terms of economic growth has led to the model (and slogan) "People, Planet, Profit", where people refers to society at large, planet to the natural environment, and profit to economic and financial prosperity (Fisk 2010). In principle, triple bottom line thinking represents a major revision of the rationality of business activity. Throughout the history of capitalism, profit has been companies' main priority. Consequences for people and the planet were seldom given serious attention – except when they began to undermine profitability. The triple bottom line principle in business cannot provide sustainability at the societal level, but it can be an important contribution, if it is respected and actually implemented.

However, examples of companies seriously pursuing the triple bottom line approach remain scarce. Moreover, the social and economic crises which have hit individual countries (e.g. Greece) or entire regions (e.g. Europe), over the past decade have clearly shown the limits of such principles. Analysis of governments' responses, five years into the latest global financial crisis, pinpointed a renewed emphasis on individual skills, at least in the Global North, as the panacea "to work through the crisis and reposition the national economy for a post-crisis world" (Brown 2013, p. 690).

Lucas Seghezzo (2009), a critical voice from the Global South, has challenged the oversimplified model of thinking about sustainable development as (potentially) endless economic growth in terms of "People, Planet, Profit", and proposed an alternative model. Seghezzo questions the definition of sustainable development as the use of natural resources in ways that "meet present needs without compromising the ability of future generations to meet their needs" (WCED 1987, Section 4, Article 27). He argues that this approach is essentially anthropocentric (human-centred) and posits people as undifferentiated members of society, the planet as a mere geographical space, and profit as a short-term measure of the economic value of human actions.

He further argues that the "People, Planet, Profit" approach emphasises the extrinsic value of natural assets for increasing the stock of "man-made" capital while discharging the intrinsic value of natural resources. Consequently, economic reasons are overestimated at the expense of equity when the links between growth and poverty alleviation or income redistribution are debated, and often "the environmental costs of economic activity are borne by the poor, by future generations, or by other countries" (Arrow et al. 1995, p. 92).

Moreover, both space and time are often mistreated in sustainability indicators, because "conceptions of time, as notions of space and territory, can differ greatly in different cultures and at different historical moments", and as such hold "an important role in the way we perceive and define nature" (Seghezzo 2009, p. 546). Along this line of argumentation, therefore, Seghezzo has revisited the unidimensional triangle composed by "People, Planet, Profit" and proposed an alternative ontology which integrates the territorial, temporal and personal aspects of development.

> To illustrate this framework, I propose a sustainability triangle formed by "Place", "Permanence", and "Persons" [...]. In such a triangle, it is possible to distinguish five dimensions: Place contains the three dimensions of space (x, y, and z), Permanence is the fourth dimension of time (t), and the Persons corner adds a fifth, individual and interior, human dimension (i). Place and Persons, the base of the triangle, represent "real", objective and concrete things that exist in the present time. Permanence, which is located in the upper (or the farthest) corner, is a more "ideal", abstract and subjective projection of events from the other corners into the future (Seghezzo 2009, p. 547).

The general character of Seghezzo's proposed framework shows how difficult it is to develop approaches to sustainability which transcend both the anthropocentric presuppositions and the abstract logic of economics. But the venture in itself is important. And it sheds a new and different light on the links sustainable development holds with social justice, including inter-generational aspects.

The concept of social justice owes considerable debt to the extensive work of American philosopher John Rawls (1971, 1985, 1993, 2001) on the theory of justice and a framework for democratic society from the viewpoint of political philosophy. The theoretical backdrop for this political conception of social justice builds on a few assumptions. First, that a society is democratic when regulated politically and socially, hence the principle of justice has the scope to specify the "fair" terms of social cooperation, and regulate social and economic inequalities. Second, it also assumes that although in such a politically plural society citizens may adhere to different religious, philosophical, moral etc. doctrines, it is still possible to reach social unity by agreement on basic principles of political justice.

Rawls' theory of justice as fairness builds on hypothetical and ahistorical positions, depicting a society at "point zero", before some institutions gain bargaining advantages as a result of social and historical tendencies which have arisen over time. But it is precisely through recognising the existence of social and historical tendencies which produce unfair social relations that the concept of justice gains relevance – in addressing what would otherwise inevitably result in social inequalities. In fact, Rawls' theory also assumes that at

point zero in the development of democratic societies all citizens are equal, as they all have a minimum degree of moral power, or the capacity to understand, apply, and act from the principle of justice as fairness, as well as the capacity to have, revise and pursue the public good. At the same time, all citizens are also free, because they can conceive of themselves and others as having a minimum degree of these moral power.

> Once we view a democratic society as a fair system of social cooperation between citizens regarded as free and equal, what principles are the most appropriate for it? […] by what principles are differences […] in life prospects […] made legitimate and consistent with the idea of free and equal citizens in society seen as a fair system of cooperation? (Rawls 2001, pp. 39–40)

In response to the above queries, two principles of justice as fairness emerge. The first states that "each person has the same indefeasible claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all" (ibid., p. 42). Basic liberties are, in fact, essential for developing and exerting the moral power mentioned above. The second principle adds that "social and economic inequalities are to satisfy two conditions: first, they are to be attached to offices and positions open to all under conditions of fair equality of opportunity; and second, they are to be the greatest benefit of the least-advantaged members of society (the difference principle)" (ibid., p. 43). Therefore, if the first principle assumes that citizens should have an equal chance to influence policy and gain authority irrespective of their economic and social conditions, the second principle clarifies that certain requirements must be imposed on the basic structure of society to guarantee fair equality of opportunity. In other words, unequal social and economic treatment is "fair" only when it favours greater benefits for the least privileged members of society.

Social and economic crises, migration, climate change and biodiversity underline the urgent need to link social justice concerns to the sustainability of societies and lifestyles – and for education policies which can contribute to this. We suggest below that a critical engagement with adult education – and in particular with a 20th-century social theorist whose thought emerged in adult education – can contribute significantly to the understanding of sustainable development and inter-generational justice.

Adult education: cultural tensions and sustainability

Marcus Singer (2003, pp. 81–2) has argued that Rawls' principle of fair equality of opportunity, "or at any rate something closely resembling it", together with "an antecedent of

the difference principle", play "a prominent role in R.H. Tawney's *Equality*" (Tawney 1964 [1931]). Singer supports his argument with quotes from the book like these ones:

> Inequality of power is tolerated, when the power is used for a social purpose approved by the community, when it is not more extensive than that purpose requires, when its exercise is not arbitrary, but governed by settled rules, and when the commission can be revoked, if its terms are exceeded. […] (Tawney 1964 [1931], p. 17).

> No one thinks it inequitable that, when a reasonable provision has been made for all, exceptional responsibilities should be compensated by exceptional rewards, as a recognition of the service performed and an inducement to perform it […]. What is repulsive is not that one man should earn more than others […]. It is that some classes should be excluded from the heritage of civilization which others enjoy […] What is important is not that all men should receive the same amount of pecuniary income. It is that the surplus resources of society should be so husbanded and applied that it is a matter of minor significance whether they receive it or not (ibid., pp. 112–113).

In the context of the present paper, Tawney's argument is significant not only for its own merits (to which we shall return), but because of who wrote it. R.H. (Richard Henry) Tawney was an English economic and social historian, and a social philosopher; he was also a leading advocate of working-class education, a lifelong member of the Workers' Educational Association (WEA),[1] one of its very first tutors (and, at the time he wrote *Equality*, its President). Barry Elsey (2001, p. 49) described him as the "patron saint of adult education". His commitment to the WEA encompassed not only a belief in the importance of education for workers (and their families), but also in the importance of democratic decision-making in education, and of education's role in building and strengthening a democratic society.

While Tawney's case matters in relation to fairness, social justice and equality, our focus here is on its implications for societal sustainability. In the quotation above, he wrote not only about, in Rawls' wording, "*offices and positions* [being] open to all under conditions of fair equality of opportunity" (Rawls 2001, p. 43, italics added for emphasis), but of no class being "excluded from the *heritage of civilization* which others enjoy" (Tawney 1964 [1931], p. 112–113, italics added for emphasis). This was a consistent theme in Tawney's thought: he had argued as early as 1914 that working people should not be "excluded from the common heritage of civilization", from which all men and women, 'irrespective of their occupations are equally capable, as human beings, of deriving spiritual sustenance' (Tawney 1966a [1914], p. 76). This points to the role of common culture in his understanding of social justice,

[1] The Workers' Educational Association (WEA), still offering courses today, was founded in 1903 as "The Organisation for Education of Working Class Men" by Albert Mansbridge, a clerk from Gloucestershire. For more information, see WEA 2013.

and to his view of education and culture as shared not only by people alive today, but by those in the past and in the future.

> Education, as I see it, though it is much else as well, is partly, at least, the process by which we transcend the barriers of our isolated personalities, and become partners in a universe of interests which we share with our fellow-men, living and dead alike. (Tawney 1966b [1953], pp. 87–88)

As our quote from *Learning to be* (Faure et al. 1972) on the social consequences of rapid technological development suggests, education has often been accorded a key role in establishing sustainability, including social justice, in human lives and societies. Moreover, adult education has often been deeply connected with radical social and political movements – for democratisation, citizenship etc. Tawney's concept – and its interaction with adult education – provides an example of this, but also of the tensions involved in the struggle for social justice.

It is a truism that, in Europe at least, from the second world war until the 1970s the links between adult education and social democratic (or socialist) welfare states were close. However, they incorporated a paradox. The political change involved in establishing a welfare state would widen access to cultural goods. Adult education was a beneficiary of this, in part because it was a cultural good, or at least a mechanism by which cultural goods could be shared more widely. "Cultural goods" is of course an ambiguous term; it assumes that elite culture can be parcelled out, distributed – and still retain its value. But it is exactly this ambiguity which made it possible for adult education to become the beneficiary of redistribution through taxation and the state provision of welfare.

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Many 20th century adult educators pursued a simultaneous valuing of "culture" (in the sense of "high culture") and a critique of the existing social, political and economic order. This is especially marked in the work of social movement adult education, one of whose objectives was always to open culture up to the masses – but at the same time a critique of the social order was a central motivation and rationale in workers' education throughout the 20th century. The tensions between claiming an elite culture for the people and seeking to change the social order often went unresolved. Tawney, for example, argued that adult education should be "maintained not in order to enable intellect to climb from one position to another, but to enable all to develop the faculties which, because they are faculties of man, are not the attributes of any particular class or profession of men" (Tawney 1966a [1914], p. 77). An

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official report which he (largely) authored mentioned this explicitly. In order to obtain higher education,

> it must not be necessary for workpeople to leave the class in which they were born. This is a point to which we attach the greatest importance. [...] [W]e attribute part of the failure of Higher Education among them [the working classes] in the past to the feeling that by means of it their ablest members were being removed to spheres where they would not be available for the service of their fellows. What they desire is not that men should escape from their class, but that they should remain in it and raise its whole level (WEA and University of Oxford 1909, p. 50).

This was, of course, both a very radical perspective on social order and a very conservative one. It promised equal access for all to society's cultural goods, while being careful not to destabilise the economic division of labour. For Tawney, politics and education would mean fracturing the links between the division of labour at work and the unequal allocation of rewards. Many of the Oxford academics for whom he wrote the report in 1908 no doubt saw things through a rather different lens: "civilization" would be preserved, but its benefits would be spread to the "great unwashed". Natural social hierarchies would remain undisturbed, but with fuller access to culture and education, the lives and social roles of ordinary people would be more fulfilling.

In the event, welfare states typically encouraged adult education along these lines. But the tension between distribution of well-defined (elite) cultural goods to the working class and the involvement of working-class people in reshaping the character and significance of cultural goods often re-emerged in the institutionalised forms of adult education established by the welfare state.

This tension is one of the challenges confronting ideas about sustainable policy and practice in adult education. It has often contributed to a dual understanding (and organisation) of adult education as *either* individual consumption of cultural goods *or* individual "upskilling" through predominantly vocational programmes. The first form does not challenge the class basis of elite culture, while the second form does not challenge the capitalist basis of careers and work organisation. We do not, of course, assume that this tension can just be eliminated. It is, after all, part of the business of adult education both to appreciate and to challenge established knowledge and values. Our argument is that while such tensions are inherent in adult education, it is also democratic practices generated in and through adult education which are best able to address them in developing sustainable policies and practices.

The ecology of education

In a wider sense, the concepts of sustainability and sustainable development may also be applied more directly to educational systems, the processes they frame and how they relate to society. This involves questions of balance between the structure, institutions and workings of educational systems as well as balance in the interaction between these systems with different elements and groups in society.

Sustainability, and by extension sustainable development, in this sense may be informed by the concepts of ecology and ecosystems. This is the study of interactions among organisms and their environment. These interactions are often conceptualised as ecosystems with dynamically interacting parts, including organisms, the communities they make up, and the inanimate components of their environment. The part of ecology most relevant to education is human ecology, which studies the relationship between humans and their natural, social and constructed environments.

A key contribution to developing an ecological approach to education and learning has been provided by Urie Bronfenbrenner (1979). His background was in developmental and social psychology, but he became increasingly critical of psychological research which tended to focus too much on behaviour in single institutional contexts like the family or the school. His "experimental ecology of education" (Bronfenbrenner 1976) was a call for a type of educational research which tries to represent as fully as possible the ecosystems at different levels in which education and learning are embedded. He argued that whether and how people learn in educational settings depends on the relations between the characteristics of the learner and his or her context in each of the principal life environments like home, school or the workplace, but also on the relations and inter-connections which exist among these life environments.

Bronfenbrenner (1979, p. 22) conceptualises the ecological environment "as a nested arrangement of concentric structures, each contained within the next". There are four such structures, which Bronfenbrenner calls "systems":

- Micro-systems are the immediate settings containing the learner, for instance the home, the daycare centre, the classroom, the workplace.
- Meso-systems are the interrelations among the major life-settings of a learner at particular points in his or her life.

- Exo-systems are extensions of the meso-systems, embracing the formal and informal social structures' influence or impact on the immediate life-settings. Examples are the world of work, the neighbourhood, mass media, agencies of government.
- Macro-systems are the overarching institutions of culture and society, such as the economic, social, educational, legal, and political structures and systems.

This conceptual framework reflects Bronfenbrenner's background in psychology; it moves from the learners' immediate surroundings outwards to broader contexts and structures of society, and analysis becomes more abstract at the exo- and macro-system levels. As Bronfenbrenner argues, this is partly due to the fact that (in the mid-1970s) too little empirical research on learning and education had in fact tried to capture interactions and influences at these levels; but also reflects the fact that he had based his comprehensive overview of existing knowledge largely on psychological research. Redefinition of the psychological concept of human development was another main aim of his ecological approach; he held that rather than being seen as a process of inner growth, individual development should be defined as "the person's evolving conception of the ecological environment, and his relation to it, as well as the person's growing capacity to discover, sustain, or alter its properties" (ibid., p. 9).

Bronfenbrenner's ecological approach was not only an attempt to overcome limitations in research on human development; it also reflected a critical assessment of developments in society, especially an increased institutionalisation of different life settings, which undermined the interconnections between them. One example is that schooling increasingly takes place in large and standardised institutions, while the links between schools and other micro-systems in children's lives become increasingly tenuous. For Bronfenbrenner this meant that schools became "breeding grounds for alienation" (ibid., p. 231), and he argued that this development threatened basic qualities of society.

> No society can long sustain itself unless its members have learned the sensitivities, motivations, and skills involved in assisting and caring for other human beings. Yet the school, which is the setting carrying primary responsibility for preparing young people for effective participation in adult life, does not, at least in American society, give high priority to providing opportunities in which such learning could take place. This would not be impossible to achieve. For some years I have been advocating the introduction in our schools, from the earliest grades onward, of what I have called a curriculum for caring […]. The purpose of such a curriculum would be not to learn about caring, but to engage in it: children would be asked to take responsibility for spending time with and caring for others – old people, younger children, the sick, and the lonely (ibid., p. 53).

In this approach, sustainability becomes a question of mutual links and balance between life settings and forces influencing them. This emerges clearly in several of the many hypotheses

Bronfenbrenner proposed, for instance hypothesis 38: “The developmental potential of a meso-system is enhanced to the extent that there exist indirect linkages between settings that encourage the growth of mutual trust, positive orientation, goal consensus, and a balance of power responsive to action in [*sic*] behalf of the developing person” (ibid., p. 216). It should be noted that the approach has a clear normative basis; certain qualities, such as caring attitudes and motivations, are assumed to be positive in a general sense.

Lack of sustainability in the sense indicated by the human ecology approach is common in education and takes many forms (Pretorius 2014, Whitty et al. 1998). For instance, a public school system may have social justice as one of its official objectives, but at the same time distribute resources mostly on the basis of average student achievement. This can result in schools concentrating resources mainly on high-achieving students and leave the lowest achievers behind. Or a market-based higher education system with institutions at different levels in terms of teaching and research may become dominated by struggles for academic recognition and funding to such a degree that the broader mission of providing quality higher education for a wide segment of the population is undermined. Or the management of an education system may become so bureaucratic that the system is unable to respond to new needs for learning and skills which emerge in labour markets or society. The specific character of such problems depends on the historical trajectories and the dominant policy priorities in given societies, but at a more general level they represent failings in the ecosystems of education and society. They signal lack of sustainability because, if not corrected, they lead to the erosion – and in the end the breakdown – of educational logics.

One example of an ecological approach is a study of the interaction of schools and informal learning organisations in a regional context (Russell et al. 2013). Jennifer Lin Russell and her colleagues use the concept of ecology as a metaphor to characterise the network of organisations in a locality which provide learning opportunities for youth, and argue that “By employing the language of ecology, we deliberately call attention to two properties: diversity and interdependence” (ibid., p. 261). In their view, the ecological perspective highlights two crucial properties of the regional education ecosystem: interdependence and diversity. In line with Bronfenbrenner, Russell et al. see interdependence between micro-systems and other entities as a necessary quality, and they argue that this also applies to diversity. “Just as biodiversity is a measure of the health of an ecosystem, diversity in the organizational forms that provide organized educational activity in a region are indicative of a robust learning ecology” (ibid., p. 262).

For adult education, the balance and the interdependence necessary for sustainable development is often especially delicate. Adult education is generally the least institutionalised sector in educational systems. Establishing specific structures and institutions for adult education run by professional adult educators, and getting these recognised as part of the overall educational system, is necessary to provide stable opportunities for adult learning. But institutionalisation also involves the risk of separating education from the life situations and experiences of adult learners, thus "colonizing the life-world" (Habermas 1981), which severely limits adult education's potential for developing a broad spectrum of vocational, social and personal capacities. A balance between institutional and non-institutional logics is essential to the sustainability of adult education systems. But balance here does not mean harmonious continuity. As discussed in the previous section, changes, innovations, and even conflicts, are necessary elements in social progress – both in education and elsewhere. But it is important that all actors consider the overall "ecology" of adult education and strive to make this sustainable.

In this paper, we have emphasised social sustainability issues involved in education, especially adult education. But of course institutionalised education also interacts with the natural environment. For instance, schools, like other public buildings, emit greenhouse gases. In a 2008 report on this issue, the Sustainable Development Commission estimated that English schools emitted 8.5 million tonnes of carbon dioxide per year, and greenhouse gases equivalent to 9.4 million tonnes of carbon dioxide per year (SDC 2008, p. 3). The "carbon footprint" of schools is composed of several sources: the use of energy in school buildings; travel and transport to and from schools by cars, trains and other means; supply chains of companies producing goods and services for schools; and schools' waste management (ibid., p. 12). The commission – which was closed in March 2011 by the Conservative coalition government – argued that emissions could be reduced dramatically if steps were taken without further delay.

Thus balance and interdependence, between the different social and educational "systems" where learning occurs and between these systems and their natural environments, are key elements of a sustainable ecology of adult education.

Concluding remarks

Undoubtedly, sustainability and sustainable development are widespread conceptions today, and probably no one would contest they are "positive" ones. But their policy implications are

not necessarily so, or at least they may become open to larger contestation when attention is focused on the role of adult education and learning policy *in fostering* societal sustainability, as we have tried to do in this contribution.

First, when we consider the conditions under which the concept of "sustainability", and by extension that of "sustainable development", entered the political debate, we note that these were born out of a concern of how to secure potentially "endless economic growth" by controlling for the ecological footprint of humanity (i.e. taking into account both the use of natural resources and pollution produced by humankind) (Meadows et al. 1972). However, these concepts went hand-in-hand with preoccupations with the impact of the ecological footprint of humanity on future human co-existence (Faure et al. 1972). From this perspective, while anthropocentrism has been strongly present in the interpretation of relations between mankind and the natural environment (i.e. natural resources only hold an extrinsic value for the benefit of humankind), education has been turned into a means for humankind to learn how to maximise (economic) benefit by taking care of the environment and its finite natural resources.

Second, despite the fact that the above views, and the implications they carry, are still *en vogue*, we note in some sectors of society, including education and environmental services, a growing awareness that this ontology of economic growth has silenced a number of other factors which concur with societal sustainability. Among them is the fact that the costs of maximising the benefit of humankind in the use of natural resources *pro*duce, rather than *re*duce, social conflicts, and that the costs of environmental pollution caused by certain societal groups, generations and countries are rarely reduced but rather borne by marginal groups, generations and countries.

We have discussed the possibility of adopting an alternative ontology, emphasising societal (rather than economic) growth in ways which integrate the territorial, temporal and personal aspects of development (Seghezzo 2009). In doing so, we also acknowledged that social and historical tendencies may produce unfair social relations, unless relations among social institutions are regulated to the scope of leveraging social inequalities, also among present and future generations (Rawls 2001).

From this perspective, if we look at the history of adult education as a social institution, in its relations to social democratic welfare states, we note that it incorporates a paradox or tension between on the one hand making cultural "goods" available to ordinary people from every socioeconomic background, and on the other hand challenging the traditional cultural and social order. This tension, which is still present in welfare state provision for adult

education today, must be confronted if adult education policy is to contribute to societal growth in sustainable ways.

Such a policy, we believe, calls for looking at the ecology of educational systems, namely the mutual links education systems hold with multiple life-settings in which learners are embedded, as well as forces which influence these settings, and overarching institutions and structures of culture and society.

Developing frameworks for sustainability in adult education is no easy task, as our attempt in this paper surely shows. Combining frameworks for understanding social and natural environments *and* combining these with principles of social justice; conceptualising multiple balances without overlooking the potential dynamic change; transgressing anthropocentrism – all this is ambitious. We would like to emphasise that this perspective, as we see it, is not some kind of "grand theory", but rather a basic framework which could make it possible to navigate the shallows and the depths of the quest for societal sustainability, in research as well as in policy and educational practice.

References

Arrow, K., Bolin, B., Costanza, R., Dasgupta, P., Folke, C., Holling, C. S., Jansson, B.-O., Levin, S., Mäler, K.-G., Perrings, C., & Pimentel, D. (1995). Economic growth, carrying capacity, and the environment. *Ecological Economics*, *15*(2), 91–95.

Baldi, U. (2011). *The limits to growth revisited*. New York: Springer.

Blewitt, J., & Cullingford, C. (2004). *The sustainability curriculum: The challenge for higher education*. London: Earthscan.

Bronfenbrenner, U. (1976). *The experimental ecology of education.* Paper presented at the American Educational Research Association annual meeting, 19–23 April.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Harvard University Press.

Brown, T. (2013). Spatial and financial fixes and the global financial crisis: does labour have the knowledge and power to meet the challenge? *International Journal of Lifelong Education*, *32*(6), 690–704.

Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Oxford: Capstone Publishing Ltd.

Elsey, B. (2001). R H Tawney, patron saint of adult education. In P. Jarvis, *Twentieth-century thinkers in adult and continuing education* (pp. 49–59), London: Kogan Page.

Faure, E., Herrera, F., Kaddoura, A. R., Lopes, H., Petrovski, A. V., Rahnema, M., &Ward, F. C. (1972). *Learning to be: The world of education today and tomorrow*. Paris: UNESCO.

Fisk, P. (2010). *People, planet, profit: How to embrace sustainability for innovation and business growth*. London: Kogan Page Publishers.

Habermas, J. (1981). *The theory of communicative action: Reason and the rationalization of society*, vol. 1. Beacon Press: Boston.

Lewis, C.T., & Short, C. (1879) *A Latin dictionary*. Oxford: Clarendon Press.

Livingstone (2012). Lifelong learning and life-wide work in precarious times: Reversing policymaking optics. In D. N Aspin, J. Chapman, K. Evans, & R. Bagnall (Eds), *Second international handbook of lifelong learning* (pp. 269–286). Dordrecht: Springer.

Matthews, J. (2011). Hybrid pedagogies for sustainability education. *Review of Education, Pedagogies, and cultural Studies, 33*(3), 260–277.

Meadows, D., Meadows, D., & Jorgen Randers, J. (1972). *The limits to growth: A report for the Club of Rome's project on the predicament of mankind*. New York: Universe Books.

Milana, M. (2015). Global polity in adult education and UNESCO: Landmarking, brokering, and framing policy. *Globalisation, Societies and Education, 14*(2), 203–226.

Misiaszek, G. (2012). Transformative environmental education within social justice models: Lessons from comparing adult ecopedagogy within North and South America. In D. N Aspin, J. Chapman, K. Evans, & R. Bagnall (Eds), *Second international handbook of lifelong learning* (pp. 423–440). Dordrecht/Heidelberg/London/New York: Springer.

McFarlane, D. A., & Ogazon, A. G. (2011). The challenges of sustainability education. *Journal of Multidisciplinary Research, 3*(3), 81–107.

Myers, L. (2012). Sustainability education in classrooms. *Green Teacher, 98*, 41–44.

OED (Oxford English Dictionary) (2016). "sustainable, adj.". OED Online. Oxford: Oxford University Press. http://www.oed.com/view/Entry/195210?redirectedFrom=sustainable& [accessed 14 April 2016].

Nussbaum, M. C. (2000). *Women and human development: The capabilities approach*. Cambridge: Cambridge University Press.

Nussbaum, M. C., & Sen, A. (Eds) (1993). *The quality of life.* Oxford: Clarendon Press.

Pretorius, S.G. (2014). An education system's perspective on turning around South Africa's dysfunctional schools. *Mediterranean Journal of Social Sciences, 5*(15), 348–358.

Randers, J. (2005). *What was the message of the* Limits to growth*? What did this little book from 1972 really say about the global future?* Zurich: The Club of Rome. http://www.flow.ph/l/limitstogrowth/What_was_the_message_of_Limits_to_Growth.pdf [accessed 6 July 2016].

Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Belknap Press of Harvard University Press.

Rawls, J. (1985). Justice as fairness: Political not metaphysical. *Philosophy & Public Affairs, 14*(3), 223–51.

Rawls, J. (1993). *Political liberalism*. New York: Columbia University Press.

Rawls, J. (2001). *Justice as fairness: A restatement*. Cambridge. Mass.: Harvard University press.

Russell, J. L., Knutson, K., & Crowley, K. (2013). Informal learning organizations as part of an educational ecology: Lessons from collaboration across the formal-informal divide. *Journal of Educational Change, 14*, 259–281.

Seghezzo, L. (2009). The five dimensions of sustainability. *Environmental Politics*, *18*(4), 539–556.

Sen, A. (1989). Development as capability expansion. *Journal of Development Planning, 19*, 41–58.

Simovska, V., & Mannix McNamara, P. (Eds) (2015). *Schools for health and sustainability: Theory, research and practice.* Dordrecht: Springer.

Singer, M. G. (2003). *The ideal of a rational morality: Philosophical compositions*. Oxford: Oxford University Press.

Singh, J. P. (2011). *United Nations Educational, Scientific, and Cultural Organization (UNESCO): Creating norms for a complex world*. London New York: Routledge.

SDC (Sustainable Development Commission) (2008). *Carbon emissions from schools: Where they arise and how to reduce them*. Report. London, etc.: SDC. http://www.sd-commission.org.uk/data/files/publications/Publish_Schools_Carbon_Strategy.pdf [accessed 5 July 2016].
Tawney R. H. (1964 [1931]). *Equality*. London: George Allen & Unwin.
Tawney, R. H. (1949). Education to meet the modern needs of trade unions. *The Highway, 40*(June), 183.
Tawney R. H. (1966a [1914]). An experiment in democratic education. In R. Hinden (ed.), *The radical tradition: Twelve essays on politics, education and literature by R.H. Tawney* (pp. 74–85). Harmondsworth: Penguin.
Tawney R. H. (1966b [1953]). The Workers' Educational Association and adult education. In R. Hinden (ed.) *The radical tradition: Twelve essays on politics, education and literature. R.H. Tawney* (pp. 86–97). Harmondsworth: Penguin.
UN (United Nations) (1992a). *Rio declaration on environment and development.* Annex 1 of the Report of the United Nations Conference on Environment and Development (UNCED, Rio de Janeiro, 3–14 June 1992). A/CONF.151/26 (Vol. I). New York: UN General Assembly. http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm [accessed 6 July 2016].
UN (1992b). *Agenda 21*. New York: UN. https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf [accessed 6 July 2016].
UN (1998). *Kyoto protocol to the United Nations framework convention on climate change.* New York: UN. http://unfccc.int/resource/docs/convkp/kpeng.pdf [accessed 6 July 2016].
UNESCO (United Nations Educational, Scientific and Cultural Organization) (2009). *Bonn declaration.* Formulated at the UNESCO World Conference on Education for Sustainable Development held in Bonn, Germany on 31 March to 2 April. Bonn: UNESCO. http://unesdoc.unesco.org/images/0018/001887/188799e.pdf [accessed 5 July 2016].
WEA (Workers' Educational Association) (2013). *A brief history of the Workers' Educational Association*. London: WEA. https://issuu.com/weasheffieldwea/docs/history_booklet?e=1305752/1634711 [accessed 5 July 2016].
WEA & University of Oxford (1909). *Oxford and working-class education: Being the report of a joint committee of university and working-class representatives on the relation of the university to the higher education of workpeople*. 2nd edn. Oxford: Clarendon Press. Digitised facsimile of the first edition (1908) available at https://archive.org/stream/oxfordworkingcla00workuoft#page/8/mode/2up [accessed 5 July 2016].
Webb, S. (2014). Using the experiences of skilled migrants to reflect on continuing education policies for workforce and sustainable development. *Encyclopaideia, 18*(40), 69–86.
WCED (World Commission on Environment and Development) (1987). *Our common future [The Brundtland Report]*. New York, NY: Oxford University Press.
Whitty, G., Power, S., & Halpin, D. (1998). *Devolution and choice in education: The school, the state and the market.* Buckingham: Open University Press.

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