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# A post-critical pedagogy for sustainability: Engaging the head, heart, and hands

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## Abstract

To realise the entitlement to Learning for Sustainability (LfS), the authors advocate for a post-critical orientation in university-based teacher education of the 'head, heart, and hands' model of transformative learning as an organising principle. Integration of intellect, emotion, and body as the activation triad can encourage students and teachers towards transformative engagement. Educational policies of the Scottish government, the influence on teaching practices, and benefits to student learning experiences are explored through the context of COP26 and teacher education in Scotland. Implications are proposed to inspire change in higher education for educating for a sustainable future.

## Keywords

post-critical pedagogy, teacher education, sustainability, citizenship, heritage, Scotland

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## Background

The youth organised protest march held in Glasgow during COP26, the 2021 United Nations (UN) Climate Change Conference of the Parties, saw thousands of young people forgo school as part of the School Strike for Climate movement. In response to what some call the defining issue of their time, they took the opportunity to use their voice as the world watched. The Victorian, tenement-lined streets echoed with chants of “What do we want? Climate justice! When do we want it? Now!”, “Hey hey, ho ho...climate change has got to go”, and “No coal, no oil, keep our carbon in the soil” (United Nations, 2021). The rich heritage of post-industrial Glasgow, a city where massive ships once set sail and the television and telephone were invented seemed a fitting site for post-Covid19 climate action to make waves. It was an opportune moment for the authors of this article to be engaged in participatory action research (Cohen et al., 2017) with students in a teacher preparation programme at the University of Glasgow about sustainability and to explore how teaching and learning in higher education more broadly might be strengthened by looking at approaches in primary and secondary education sector. In August of 2021, the Scottish professional teaching standards were revised, effectively classifying Learning for Sustainability (LFS) beyond a responsibility and professional commitment to a ‘way of being’ (GTC, 2021). Existential commitment is now a codified requirement of teachers in Scotland. Where once it was implicit, as the notion of a vocation implied, now it is stated as policy.

As university lecturers, we (both authors) were instructing a third-year elective module entitled Heritage, Citizenship and Sustainability (HCS) to future primary teachers as the two intense weeks of COP26 unfolded. This context provided an enquiring milieu of our own approach to supporting positive social and environmental practices through our teaching and research. In the 13 seminars of the course, we take the view that heritage, citizenship, and sustainability are inseparable and interdisciplinary. How fitting then, to teach this class about outdoor learning, the love of place, history and social justice, pro-environmental behaviours, and civic action as leaders from nearly 200 nations assembled nearby. Student reflective writings from corequisite school-based practical experiences which occurred during the summit brimmed with accounts of public transit nightmares, litter picks, tree planting, circular economy projects, Eco-Schools Green Flag applications (Eco-Schools, n.d.), and second-hand clothes swaps (did you know the fashion industry accounts for about 10% of global carbon emissions and almost 20% of wastewater? (Ro, 2020).

In Scotland’s schools, LFS is an ‘entitlement of all learners’ through the national curriculum, the Curriculum for Excellence (CfE), designed to ensure children and young people develop as ‘successful learners’, ‘confident individuals’, ‘responsible citizens’, and ‘effective contributors’ (Education Scotland, 2019). It is an exemplar of educational policy development with an international – indeed global – dimension (Higgins & Christie, 2018). As an aside, in the United Kingdom, education policy is a devolved power which allows decisions to be made by the home nations making up the UK, thus LFS as described is distinctive to Scotland. The notion of sustainability has a long antecedent in Scottish educational thinking; Higgins and Christie (2018) noted the formative influences of Sir Patrick Geddes and John Muir in particular. Geddes implied a ‘think global, act local’ philosophy, while Scottish émigré to the United States, John Muir, played a central part in the formation of National Parks in America, an event which catalysed global recognition of the importance of biodiversity, sustainability, and natural beauty. In this context, LFS

policy is not just about opportunistic teachable moments or interdisciplinarity that coincides with a climate summit; it is a historic and holistic Scottish education priority (Scottish Government, 2020). Sustainability is also a higher education priority illustrated in university-wide sustainability agendas; in the UK, the University of Glasgow was ranked second overall and 13th in the world in the inaugural QS 2023 Sustainability rankings (University of Glasgow, n.d.).

Within this rich context we have found the affirmative ethos of post-critical pedagogy fit for purpose as a framework for a university teacher preparation course aiming towards a sustainable future. In their Manifesto for a Post-Critical Pedagogy, Hodgson et al. (2017) set out principles founded in belief in the possibility of change, as found in critical theory and pedagogy, but with an optimistic attitude: a post-critical direction to education that ‘gains purchase’ on existing conditions founded in hope for what is still to come. We are at a moment in time to acknowledge and to affirm that there is good in the world worth preserving, otherwise there would be no necessity to concern ourselves with the ability of future generations to meet their own needs. Post-critical pedagogy is an endeavour to move outside the repetition of criticality in education, a commitment to go beyond critique to recognise what is good and valuable in existing education practices. It is not only a means to change or the desirable changed state, but also serves to define what is worthwhile to continue or sustain (Wortmann, 2020). It is a belief in the transformative potential of education, a hope in the present, a transition “from education for citizenship to love for the world” (Hodgson et al., 2017, p. 19), and a shift away from exposing what is wrong with the world and trying to use education to solve it. If critique is used to find fault in everything, we risk destroying morale and identifying solutions. Every educational approach has both positive and negative attributes; we should explore answers from prior research, lived experiences, and critical reflection as well as raise questions.

Our focus is on what we do and what we can do through our sphere of influence. As core concepts in our taught course, heritage, citizenship, and sustainability are inseparable; heritage involves how we construct our past in the present while preserving a set of values deemed important to the creation of the future. Doing this is fundamentally linked to views of how we ought to act in the present for the sake of our shared future. This is an inherently political process and implies an important relationship to equitable democratic practices. If heritage is concerned with values and the future then it cannot ignore – and will, generally, involve – a central concern with sustainability. After all, heritage itself involves ‘sustaining’ aspects of the past for the sake of future generations. As such, heritage, citizenship, and sustainability are concepts intrinsically linked by themes of interdependence, balance, change over time, community, cycles, diversity, fairness, limits, long term effects, quality of life, and systems thinking (Community Works Institute, n.d.).

Yet these constructs within LfS are quite vague within most higher education programmes, and often neglected, misrepresented, or underemphasised in school classrooms (Plutzer et al., 2016). In the primary classroom in particular, teachers often lack content knowledge, training, resources, as well as pedagogical expertise. Additionally, many social and ecological crises (e.g., climate change, poverty gap, and malnourishment) are actually perpetuated by people with post-secondary education (UNESCO, 2006). This compounds the immensity of an overwhelming and politically sensitive topic. Numerous approaches are used in the HCS course to explore these notions and address this quandary: ecopedagogy, sustainable education, transformative

learning theories, placed-based learning, indigenous learning approaches, experiential learning, eco-literacy, curriculum theory, and conceptual change in science classes (Singleton, 2015), with these approaches not necessarily contradictory or mutually exclusive. Therefore, we followed in our teaching, in a post-critical orientation, the Head, Heart and Hands model of Transformative Learning (Orr, 1992; Sipos et al., 2008), an organising principle and integration of intellect, emotion, and body - the activation triad with potential to move university students, future teachers, and their pupils likewise towards transformation.

## Head: Engagement

LfS requires the head, the cognitive: knowledge, thinking, reflection, and expansion of perceptions. It begins with understanding sustainability as that property of any practice, institution, activity, or process that could, in principle, be continued without significant change indefinitely. The contemporary prominence of questions surrounding sustainability is due to the realisation that continued economic and social development may not be sustainable due to the unprecedented changes that it prompts in the environment. The 1987 Brundtland report, *Our Common Future*, offered a definition of sustainable development: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Cohen, 2021, p. 14).

To that end, knowledge for LfS was focused within the HCS course according to the unifying principles and concepts of the 17 United Nations global sustainable development goals (SDGs), the three, interlinking pillars of sustainable development (i.e., social, economic, environmental), and 11 'big ideas' or main themes of sustainability education (Community Works Institute, n.d.). Implementation progress of the SDGs by the UN Secretary General is provided annually and is readily accessible for teachers and learners. Monitoring outcomes of the Glasgow Climate Pact (UN, 2022) also creates a distinct occasion for knowledge building; agreed matters such as building resilience to climate change, curbing greenhouse gas emissions, limiting rise in the global average temperature to 1.5 degrees, recognising the role of indigenous people and youth, and fulfilling the pledge of providing 100 billion dollars annually to developing countries are opportunities to extract meaning and integrate prior knowledge with new. To combat the often-ambiguous place LfS is situated in school curricula, Scoffham & Rawlinson (2022) set out specific knowledge domains: earth in space, life on land, a wet planet, weather and climate, food and farming, jobs, transport, and energy, the global village, special places, citizenship and democracy, pollution and resources, unequal world, and sustainable living. To help university students and children alike to explore these areas of study and UN commitments requires knowledge of assumptions about progress, growth and prosperity, power structures, environmental awareness, planetary boundaries, indigenous understandings, systems thinking, global citizenship, human exceptionalism, and human nature.

## Heart: Enablement

The affective domain, the heart, recognises the role of feeling, values, relational knowing, empathy, and compassion necessary in LfS. Before teachers can point learners towards how they might contribute effectively to making a better world, teachers must help them to want to! A significant emotive event can serve as the impetus to change, an awakening

to a new truth. Love of place, and natural, historic, and cultural heritage often underlie as heart-level motivation. David Sobel's (1999) advice remains poignant; to combat ecophobia (i.e., being afraid of the natural world and environmental challenges), students need plentiful opportunities to play in and discover the places they live to develop an affection for them. As Singleton (2015, p. 2) stated, "Love of place and a sense of connection or belonging are foundational toward development of sustainability values... people care about and tend to who or what they love". The connection of emotion to knowledge can be a catalyst for critical reflection and willingness to change (Zembylas, 2003). This propensity to care is a quality of mind and character, a disposition, that helps translate passion and values into behaviour. Boix Mansilla (2016) described a capacity and disposition to understand and act on issues of global significance as global competence. She outlined global competence dispositions that are about "the kind of person" a learner will become: inquiring about the world, understanding multiple perspectives – others and their own, an inclination towards respective dialog, and a disposition towards taking responsible action (p. 4), which together speak of learner ownership and long-lasting change.

Empowering, creative, and fun learning experiences engages the heart. To this end, university instructors and classroom teachers alike are compelled to employ transformative engagement methods to create emotional connection: to awaken awareness of a gap between what learners know or believe (or are led to believe) and reality and to create cognitive dissonance or emotional disruption leading to critical reflection and internalisation. Teachers then design learning experiences which facilitate factors probable to induce action, such as empathy building, 'issue-tisation', and identifying tipping moments (UNESCO, 2019). Learners are empowered to place themselves in the situation of others to understand shared needs and comprehend an issue at an actionable scale. They change and are transformed, and yet the affective phenomenon is difficult to measure and explain; as Singleton (2015, p. 10) noted, "perhaps love is the intangible piece that is challenging to researchers".

In our HCS course, we initiated opportunities targeted to build knowledge and engage the heart in several ways. First, through place-based education (Ormond, 2013) the class visited a local museum, where students developed object lessons which incorporated systems theory, 'big ideas' of LfS, and learner agency (Tishman & Clapp, 2017); they also experienced the daily organ recital inclusive of Scottish folk music. Additionally, students met with historical management trust representatives, social entrepreneurs engaged in community-orientated legacy projects (Lowenstien & Smith, 2017), and a director of a residential outdoor learning centre which supports schools and pupils attaining the John Muir Award, an environmental award scheme focused on wild places (John Muir Trust, n.d.). We also leveraged the emotive power of music, with playlists of songs about geographical places, social justice, celebrating equity, and fighting climate the crisis from artists that tackle social and political issues. This interdisciplinary integration of "playing music in a way to achieve a social or societal good" was proposed by Sternberg (2021, p. 1777) as a blending of the theory of multiple intelligences (Gardner, 2011) and the theory of successful intelligence (Sternberg, 2020b). Following a post-critical pedagogical stance, we also utilised simulations (e.g., the fish game from the Cloud Institute for Sustainability Education, n.d.) in addition to simply experiencing the outdoors together.

## Hands: Enactment

The active use of LfS concepts and application of eco-friendly behaviours encompasses 'hands' in the triad. This behavioural domain translates knowledge and care into enactment and is correlated with the 'citizenship' element of the HCS course. Young people in schools and universities today will inherit pressing—and intensifying—challenges that require action: threats of climate change, loss of biodiversity, the end of cheap energy, depletion of resources, environmental degradation, inequities in standards of living, and environmentally linked illness to name a few (Stone & Barlow, 2009). There appears to be a growing realization that 'doing', the active use of LfS concepts by responsible citizens who are effective contributors (Education Scotland, 2019), requires continued support and a united effort. To fulfil the potential of LfS, learners need to know that they can make a difference; education for sustainability depends on projects that are meaningful, developmentally appropriate, have integrity, and can be completed with the time and resources available. Personally relevant and locally meaningful legacy projects (Beghetto, 2017) addressing climate justice are well positioned to fulfil learners' right to a sustainable future.

Sipos et al. (2008) examined successful sustainability programmes related to action at multiple levels. At the personal level, learners engage with LfS through experiential and applied learning. In the classroom, educators create a democratic and participatory learning environment and use direct instruction to teach conflict resolution. And at the community level, learners engage in collaborative service learning that meets a need in the local community and fosters civic responsibility. While supervising primary children participating in the COP26 youth march, we challenged them to respond to the 'Now what?' prompt of the three-question reflective model of What? So what? Now what? (Rolfe et al., 2001). On an individual level, they decided that even small acts like using bamboo toothbrushes, buying fair trade products, turning down the heat, walking more, and eating less meat could have an impact. The link of the protest march experience to further consumer activism and supporting socially responsible business (UNESCO, 2019) was a clear demonstration of the 'hands' in action. Connections made cognitively and emotionally were being translated to will and ability to act.

In our HCS course, students were given a civic engagement task requiring a minimum of two hours of volunteering and a written summary to synthesise goals of the organisation with the SDGs and four capacities of the Curriculum for Excellence. Civic engagement incorporates working to make a difference in the life of communities with the development of knowledge, skills, values, and motivation to make that difference (Ehrlich, 2000). It means promoting the quality of life in a community through participation in both political and non-political processes; such activities are of personal and public concern, individually life enriching, and socially beneficial. Students in HCS were encouraged to extend civic engagement beyond the course by earning recognition and credit for their volunteering/civic engagement; this could be noted on their official transcript or extended transcript (i.e., the Higher Education Achievement Report), or through the university's annual Volunteering, Clubs and Societies Awards scheme. The Association of American Colleges and Universities (AAC&U, 2019) identified civic engagement among 16 cross-cutting core expectations of undergraduate university education, with an increasingly sophisticated levels of demonstration and attainment expected each year.

## Avoiding the “blah, blah, blah”

The head, heart, and hands framework illustrates individuals “progressing from knowing to caring to loving to doing” (Singleton, 2015, p. 10). Unfortunately, ineffectual ‘doing’ has often been the outcome of sustainability efforts. In Glasgow, Swedish activist Greta Thunberg criticised world leaders from the protest stage for lack of action and unproductive discord, what she called their continued “blah, blah, blah” (United Nations, 2021). Yet we are encouraged to see teachers and young people becoming citizens and critical actors in their communities who enact principles, values, and goals of sustainability. Kwauk and Winthrop (2021, para. 8) noted the creativity of teachers and learners is a poignant opportunity to demonstrate leadership in LfS. As they implored, “image a world where every school community from Afghanistan to Zimbabwe, from China to the U.S. had pupils actively designing and leading projects aimed at curbing and/or adapting to climate change”. In a reflection on the difference education towards sustainable development has made and to set future priorities, Education Scotland (2014) collated benefits and outcomes from pupils, parents, staff, headteachers, and community representatives. These included: enhanced learning and motivation and readiness to learn, increase in development of skills for life, learning and work, increase in learner confidence, improved reputation and standing of establishments in the community, improved staff morale, wellbeing and motivation, enriched ethos of school and improvements to the community spirit (Education Scotland, 2014, p. 4-5). These findings along with renewed commitment in revised professional standards indicate an optimism that educational reform has offered meaning and purpose, and LfS should be the day-to-day lived experience for learners within schools and beyond to higher education.

Senegalese ecologist Babia Dioum once said, “In the end, we will conserve only what we love. We only love what we understand. We only understand what we are taught” (Dioum, 1968). We are mindful that without strong knowledge and deep understanding of sustainability dilemmas at a local level, the future teachers in our programmes may move forward with reckless enthusiasm. Without heart, student activities in school and university classrooms can be disjointed and unfruitful. And without action, we may try to implement plans unlikely to succeed or continue. Learning for sustainability could be realised by developing coalitions for action comprised of content developers, educators, researchers, companies, organizations, governments, and funders, supporting teacher and student creativity, and capturing what we learn along the way to advance impact (Kwauk & Winthrop, 2021). This crafts the possibility for change in teaching and learning processes and a call to respond with the optimism of a post-critical pedagogy (Hodgson et al., 2017) towards good and valuable education for sustainability in primary and secondary education as well as higher education.

In November 2022, the world met again in Sharm El-Sheikh, Egypt for COP27, the results of which established a dedicated fund for vulnerable countries to deal with damages from the impacts of climate change amongst other finance reforms. However, there was not a substantial new effort to limit temperature rise to 1.5 degrees Celsius (2.7 degrees Fahrenheit) or address just energy transitions, thus making overall progress less than hoped for (Alayza et al., 2022). There remains a prime opportunity through COP28 in Dubai in 2023, and through subsequent UN climate summits, to spotlight the agentic capabilities of individuals’ head, heart, and hands in their classrooms, universities, communities, and shared world. A better future can be created by informed higher education instructors,

committed university students, well-prepared teachers, and knowledgeable pupils who care and take action.

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