Integrating character education and the values aspect of environmental and sustainability education

An interdisciplinary study exploring common ground, tensions, and feasibility

Karen Elizabeth Jordan

Dissertation submitted in partial fulfilment of a Ph.D. degree

UNIVERSITY OF ICELAND
SCHOOL OF EDUCATION

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Karen Elizabeth Jordan

Supervisors
Dr. Ólafur Páll Jónsson
Dr. Stephen Gough

Doctoral committee
Dr. Ólafur Páll Jónsson
Dr. Stephen Gough
Dr. Kristján Kristjánsson

Opponents at defence
Dr. Randall Curren
Dr. Elsa Lee

Dissertation submitted in partial fulfilment of a Ph.D. degree

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School of Education, University of Iceland
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Abstract

Integrating character education and the values aspect of environmental and sustainability education: An interdisciplinary study exploring common ground, tensions, and feasibility

This doctoral thesis contributes to the discussion on teaching the values aspect of environmental and sustainability education (ESE). Although fostering values is promoted within ESE, and a shift in values seen as essential for a sustainable future, many educators appear uncertain or conflicted about whether, or how, to approach values education. The intention of this pragmatic, multi-method, interdisciplinary research was to explore what insights the field of character education (CE) might offer into teaching the values aspect of ESE. To accomplish this, three studies were conducted each exploring a different, yet interconnected, angle: theory, practice, and feasibility. Study 1 was a philosophical inquiry integrating virtue ethics and ESE theory. Study 2 was an instrumental case study carried out at an independent, all-ages, holistic-oriented school in Scotland, exploring how ESE and CE might intersect in theory and practice, through examining the school's approach to ESE and analysing if and how it relates to CE theory and practice. Study 3 was a Delphi study exploring ESE and CE experts' perceptions regarding the feasibility of integrating insights from ESE and CE.

The theoretical background of the research draws on several theories and concepts. These are Repko & Szostak's (2017) Interdisciplinary Research Process; Vare & Scott's (2007) theory of ESD 1 and ESD 2; Krathwohl et al.'s (1964/1973) theory of affective learning; the concept of a head-hands-heart approach to learning and ESE (e.g. see Sipos et al., 2008; Tilbury, 1995); and virtue ethics and environmental virtue ethics (Aristotle, ca. 335–332 BCE/1985; Hursthouse, 2007).

Data were gathered 2014–2019. Study 1 is a philosophical inquiry into the integration of CE and the values aspect of ESE from an Aristotelian virtue ethics standpoint, virtue ethics being one of the main approaches of CE. The study was an interdisciplinary collaboration between myself, coming from the ESE field, and Kristján Kristjánsson, a character educationist. Together, we critically analysed and integrated knowledge from the ESE and CE fields

to explore how virtue ethics can address sustainability. Study 2 case study data were gathered via seven teacher interviews, school observations, field notes and document analysis. Thematic analysis according to Braun & Clarke (2006) was used to analyse the data. The findings were then re-analysed from a CE perspective to establish if ESE and CE intersection took place at the school. Study 3 data were gathered via an email-based Delphi study, essentially a facilitated group discussion, involving 12 ESE and CE experts. Experts rated their agreement and made comments on 41 statements relating to ESE-CE integration.

Overall, the findings indicate existing common ground between ESE and CE via school climate/ethos and role-modelling; service-learning; interdisciplinarity, real-world and holistic learning; taking a whole-person or head-hands-heart approach to education; the need to address the human-nature relationship; and the need to examine and redress the purpose of education, particularly in regard to challenging the instrumental approach to, and influence of neoliberalism on, education. The findings also reveal points of tension between ESE and CE: friction between the need for democracy and pluralism, and the normativity inherent in ESE and CE; and the perceived individualism of CE versus the communitarianism (or extending one's concern outward from the self to the community, and to the environment) of ESE. In terms of the feasibility of future ESE-CE integration, the areas of common ground and points of tension suggest possibilities for, and barriers to integration respectively. In particular, the findings imply the CE field needs to actively emphasise a societal and environmental focus. The findings also have implications for the way ESE researchers and practitioners view values education and affective learning by challenging the view that they conflict with critical thinking or an ESD 2/emancipatory approach to ESE, and instead suggests these are different yet crucial aspects of learning that need to be held in *balance*.

The exploratory nature of the research lays the ground for future research e.g. action research bringing together ESE and CE practitioners would provide valuable insight into how integration might function in practice; and collaborative research on the aim of education and the challenge of neoliberalism in education.

By identifying and critically examining a range of possibilities for integration of ESE and CE; by revealing commonalities and indicating where differences could be bridged and tensions addressed; and by indicating new avenues for research, this research contributes to our understanding of teaching the

values aspect of ESE, and conversely the environmental and sustainability aspect of CE

Ágrip

Að flétta saman skapgerðarmenntun og mikilvægi gilda innan umhverfis- og sjálfbærnimenntunar: Þverfræðileg rannsókn á sameiginlegum flötum, átakapólum og möguleikum

Þessi doktorsritgerð fjallar um gildakennslu innan umhverfis- og sjálfbærnimenntunar. Þótt lögð sé rækt við gildi innan slíkrar menntunar, og breytt gildismat talið forsenda sjálfbærrar framtíðar, hafa kennarar oft óljósar eða mótsagnakenndar hugmyndir um hvort og hvernig ætti að vinna með gildi í menntun. Markmiðið með þessari hagnýtu og þverfræðilegu rannsókn, sem byggir á ólíkum aðferðum, var að skoða hvaða hugmyndir skapgerðarmenntun gæti lagt til gildakennslu innan umhverfis- og sjálfbærnimenntunar. Rannsóknin skiptist í þrjá hluta og í hverjum þeirra er viðfangsefnið skoðað út frá eigin sjónarhorni: kennilegu sjónarhorni, sjónarhorni skólastarfs og sjónarhorni möguleika. Fyrsti hlutinn var heimspekileg greining þar sem dygðasiðfræði og umhverfis- og sjálfbærnimenntun voru tengd saman. Annar hlutinn var tilviksrannsókn sem unnin var í grunnskóla í Skotlandi sem vinnur í anda heilstæðrar menntunar. Þriðji hlutinn var Delfí-rannsókn þar sem sérfræðingar í umhverfis- og sjálfbærnimenntun og skapgerðarmenntun greindu fýsileika þess að flétta saman hugmyndir úr dygðasiðfræði annars vegar og umhverfis- og sjálfbærnimenntun hins vegar.

Fræðilegur grunnur rannsóknarinnar er byggður á margvíslegum kenningum og hugtökum. Hér má nefna þverfræðilegt rannsóknarsnið frá Repko og Szostak (2017); kenningar Vare og Scotts um ESD1 og ESD2 (2007); kenningar um þátt tilfinninga í námi frá Krathwohl og fleirum (1964/1973); hugmyndina um höfuð-hendur-hjarta nálgun í sjálfbærni- og umhverfismenntun (sjá t.d. Sipos o.fl., 2008; Tilbury, 1995); og hefðbundna dygðasiðfræði sem og umhverfis-dygðasiðfræði (Aristóteles, um 335–332 f.Kr./1985; Hursthouse, 2007).

Gagna var aflað árin 2014 til 2019. Fyrsti hluti rannsóknarinnar er heimspekileg greining á snertiflötum skapgerðarmenntunar og áherslu á gildi innin umhverfis- og sjálfbærnimenntunar út frá sjónarhóli aristótelískrar dygðasiðfræði, enda byggir skapgerðarmenntun gjarnan á þeim fræðigrunni. Þessi hluti rannsóknarinnar var unninn í þverfaglegu

samstarfi á milli mín, með bakgrunn í umhverfis- og sjálfbærnimenntun, og Kristjáns Kristjánssonar, sem er sérfróður um skapgerðarmenntun og aristótelíska dygðasiðfræði. Samstarf okkar beindist að því að greina og samþætta þekkingu frá umhverfis- og sjálfbærnimenntun, annars vegar, og skapgerðarmenntun, hins vegar, til að varpa ljósi á hvernig dygðasiðfræði gæti stutt við sjálfbærni. Annar hluti rannsóknarinnar er tilviksrannsókn þar sem ég safnaði gögnum með viðtölum við sjö kennara, með vettvangsathugunum í skóla, og greiningu skjala. Gögnin voru fyrst þemagreind eftir aðferðum Braun og Clark (2006) en síðan greind upp á nýtt út frá sjónarhóli skapgerðarmenntunar til að leiða í ljós hvort umhverfis- og sjálfbærnimenntun og skapgerðarmenntun væru samþætt í skólanum. Í þriðja hluta rannsóknarinnar var gagna aflað með aðferðum Delfí-rannsókna í gegnum tölvupóst þar sem 12 sérfræðingar á sviðum umhverfis- og sjálfbærnimenntun og skapgerðarmenntunar tóku þátt í hópsamræðu. Sérfræðingarnir mátu samhljóm eða samþykki og gerðu athugasemdir við 41 staðhæfingu sem tengdist samþættingu sviðanna tveggja.

Niðurstöður benda til að leggja megi sameiginlegan grunn að umhverfis- og sjálfbærnimenntun og skapgerðarmenntun með því að vinna með skólamenningu og fyrirmyndir, menntun í tengslum við sjálfboðaliðastarf, nota reynslunám, líta á manneskjuna sem eina heild (höfuð, hönd og hjarta), beina athygli að tengslum manns og náttúru, og með því að taka markmið menntunar til gagnrýninnar skoðunar, ekki síst í andófi gegn áhrifum tæknihyggju og nýfrjálshyggju. Niðurstöður leiða einnig í ljós átakapóla á milli umhverfis- og sjálfbærnimenntunar og skapgerðarmenntunar. Sjá má að áhersla á lýðræði og fjölhyggju valdi núningi við gildagrunn sviðanna tveggja auk þess sem einstaklingshyggja, sem oft virðist einkenna skapgerðarmenntun, stangast á við samfélagsáherslur (eða útvíkkun einstaklingsbundinna hagsmuna til hins víðara samhengis samfélags og umhverfis) í umhverfis- og sjálfbærnimenntun. Sameiginlegir fletir vísa til möguleika á samþættingu á meðan átakapólarnir skapa hugsanlegar hindranir. Niðurstöðurnar gefa sérstaklega til kynna að innan skapgerðarmenntunar verði að leggja ríka áherslu á atriði er varða samfélag og umhverfi. Niðurstöðurnar hafa einnig afleiðingar fyrir það hvernig litið er á gildamenntun og menntun tilfinninga innan umhverfis- og sjálfbærnimenntunar, bæði meðal rannsakenda og kennara, með því að ögra því sjónarmiði að gildamenntun stangist á við gagnrýna hugsun eða valdeflandi sjálfbærnimenntun, og leggja í staðinn til að um sé að ræða ólík en nauðsynleg sjónarmið sem verði að vera í *jafnvægi* í menntun.

Rannsóknin í heild er opin og gefur tilefni til frekari rannsókna, t.d. starfendarannsóknar þar sem fólk sem starfar innan umhverfis- og sjálfbærnimenntunar og skapgerðarmenntunar ynni saman en slíkt samstarf gæti gefið mikilvægar vísbendingar um hvernig samþætting sviðanna tveggja gæti átt sér stað í verki; og samstarfsrannsókn um markmið menntunar og þær áskoranir sem nýfrjálshyggja í menntun hefur skapað.

Með því að benda og skoða með gagnrýnum augum ólíka möguleika á að tengja saman umhverfis- og sjálfbærnimenntun og skapgerðarmenntun, með því draga fram ólíka snertifleti, benda á hvar brúa megi bil og bregðast við átakapólum; og með því að vísa á nýjar rannsóknalendur, eflir þessi rannsókn skilning okkar á kennslu gilda innan umhverfis- og sjálfbærnimenntunar, um leið og hún vísar á leiðir til að takast á við mál tengd umhverfi og sjálfbærni innan skapgerðarmenntunar.

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List of journal articles

This thesis is based upon the following papers, which correspond to Studies 1–3, respectively:

Article 1

Jordan, K. & Kristjánsson, K. (2017). Sustainability, virtue ethics, and the virtue of harmony with nature. *Environmental Education Research*, *23*(9), 1205-1229. https://doi.org/10.1080/13504622.2016.1157681

Article 2

Jordan, K. (Forthcoming/2022). *The intersection of environmental and sustainability education, and character education: An instrumental case study.* Manuscript submitted for publication.

Article 3

Jordan, K. (2021). The Feasibility of Integrating Insights From Character Education and Sustainability Education – A Delphi Study. *British Journal of Educational Studies*. https://doi.org/10.1080/00071005.2021.1897519

1 Introduction

1.1 Teaching the values aspect of environmental and sustainability education

Since the 1960s, when it became a distinct discipline, environmental education (EE), and subsequently environmental and sustainability education (ESE), has undergone several changes in approach (Gough, 2013; Tilbury, 1995), moving from a focus on imparting knowledge, to behaviour modification, to a more critical approach, to education for sustainable development (ESD) (Breiting, 2000; Gough, 2013; Stevenson et al., 2016; Tilbury, 1995), to action competence (Jensen & Schnack, 1997) and recently to an emphasis on fostering democratic participation and competencies (Wals, 2010). Throughout these changes, values education has been considered a component of such education, albeit to a greater or lesser extent (Scott & Oulton, 1998). However, values education is highly contested ground. Educators have been found to be unclear or conflicted on whether, or how, values should be approached or taught (Aðalbjarnardóttir, 1999; Halstead & Taylor, 2000; Scott & Oulton, 1998; Shephard, 2008), with many teachers reluctant to address controversial issues in the classroom (Halstead & Taylor, 2000; Scott & Oulton, 1998), uncertain of how self-disclosing or judgemental they should be, and concerned about indoctrination (Halstead & Pike, 2006; Kristjánsson, 2013; Kopnina, 2012, 2014; Scott & Oulton, 1998; Shephard, 2008; Wals, 2011). Within the field of ESE there is an inclination for values education to be viewed as instrumental, un-democratic, or at odds with a critical approach (Wals et al., 2008; Wals, 2011).

The worries and uncertainties faced by teachers is of concern, especially given the body of research within social psychology that has shown that values influence our attitudes and behaviours, and notably places values at the base of social and environmental concern and action (Corral-Verdugo et al., 2014; Kasser, 2011; Schwartz, 2007; Stern, 2000). Additionally, there is increasing agreement on the need to address the affective dimension of learning in relation to sustainability (Murray et al., 2014; Rieckmann, 2018; Shephard, 2008; Sipos et al., 2008).

I became interested in the possibility of interdisciplinary research, integrating insights from the ESE and CE fields, after reading a journal

article concerning character and citizenship education by Kristján Kristjánsson (2004). While being supportive of education in relation to democratic knowledge, skills, and values or civic virtues, Kristjánsson (2004) criticises any citizenship education that attempts to replace or sideline character education in the 'moral basics' or virtues, which he argues lay the basis for social and political skills. The article resonated with me in terms of my own concerns regarding the move towards a democratic education focus within ESE, and the aforementioned contentious position, or even 'sidelining', of the values aspect.

Interdisciplinary research is a process of addressing a problem by drawing on disciplinary insights with the goal of integrating their insights to construct a more comprehensive understanding (Repko and Szostak, 2017). One approach to interdisciplinary research involves identifying an important connection between two previously unconnected disciplines or areas of enquiry (Lyall et al., 2011, p. 9), which in some cases involves recognising a 'hitherto "silent" discipline' that might offer insights into the problem that can be integrated with existing disciplinary insights or theories (Repko and Szostak, 2017, p. 94). After reading Kristjánsson's article, I reflected that integrating insights from the values aspect of ESE and the CE field might offer new insights, knowledge and understanding in relation to the problem of teaching the values aspect of ESE.

1.2 The purpose of the research

The intention of this pragmatic, multi-method, interdisciplinary research is to explore what insights the field of character education (CE) might offer into teaching the values aspect of environmental and sustainability education (ESE). To accomplish this, three studies were conducted each exploring a different, yet interconnected, angle: theory, practice, and feasibility. Study 1 is a philosophical inquiry integrating virtue ethics and ESE theory. Study 2 is an instrumental case study carried out at an independent, all-ages, holistic-oriented school in Scotland, exploring how ESE and CE might intersect in theory and practice, through examining a holistic education oriented school's approach to ESE and analysing if and how it relates to CE theory and practice. Study 3 is a Delphi study carried out to explore ESE and CE experts' perceptions regarding the feasibility of integrating insights from ESE and CE.

It is anticipated that the interdisciplinary knowledge generated from this study will provide new insights into, and a more comprehensive, integrated understanding of the values aspect of ESE, as well as shed light on the

feasibility of the integration of insights and practice from the CE and ESE fields, thereby adding to the ESE discourse and having potential practical application in ESE practice.

1.3 The context of the research

As noted in Section 1.1. above, values education has been considered a component of ESE, albeit to a greater or lesser extent throughout changes in approach and emphasis. Within the UN Decade of Education for Sustainable Development (DESD), the subsequent General Action Plan (GAP), as well as the Incheon Declaration for Education 2030, the development of knowledge, skills, values and attitudes that empower learners to contribute to sustainable development and respond to local and global challenges is promoted (UNESCO, 2019, 2021).

However, a recent UNESCO (2019) study that assessed whether, and to what extent, the three learning dimensions—cognitive, behavioural and socio-emotional (including values)—are prioritised in ESD across compulsory education in 10 countries found 'ESD content included a greater focus on the cognitive dimension than the behavioural dimension and placed the least emphasis on the social and emotional dimension' (p. 8). The report stressed the need for all three interrelated dimensions of learning—the cognitive, social and emotional, and behavioural—to be developed in union, considering this essential 'to advance a value-based and holistic approach to learning that is truly transformational' (UNESCO, 2019, p. 7). While the study acknowledged the pattern of emphasis varies across countries and education levels, it concludes the findings clearly show there is a need for countries to pay more attention to the social and emotional dimension of learning (UNESCO, 2019). In another recent UNESCO report, *Issues and trends in Education for Sustainable Development*, Leicht et al. (2018, p. 15) state: 'It is becoming clear that ESD should go beyond a focus on knowledge and skills to promote values and attitudes conducive to promoting sustainable development, and empower responsible citizens to take action for change'. Thus, the recent UNESCO reports show that although values and affective learning are considered components of ESE, there is a preference for cognitive learning, and consequently the values aspect is being neglected.

Overall, this research takes a very broad and general perspective on ESE-CE integration. Studies 1 and 3 were carried out with an international perspective, and while Study 2 was situated in a Scottish context, the findings were presented with a view to being as universally relevant as

possible (see more on the transferability of Study 2's findings in Section 6.2). However, there is no single or universal education system, but instead a variety of different priorities, pedagogies, and sociocultural contexts. As such, it is acknowledged that the implications of this research are broad and general, leaving the finer details and applicability to be further researched and adapted to local contexts and specific settings.

1.4 The researcher's standpoint

In this section, I will reflect on my positionality in relation to the research. As in all research, it is important to understand our positionality and, therefore, the lens through which we see data.

My background is in ecology, having gained a BSc in Environmental Biology as an undergraduate in the UK. I also hold a postgraduate certificate in science education, giving me qualified teacher status in the UK. I have worked for roughly 20 years in the sustainability field, working for different organisations on environmental and sustainability issues, ranging from writing campaign briefings at the NGO Global Justice Now in Scotland, to developing a school programme for a whale museum in north Iceland. These experiences confirmed my strong belief in the importance of education as a—if not the—key factor in the transition towards sustainability.

My interest in the role of values in sustainability in particular began while studying for my MA in Environment and Natural Resources, specifically when I started to learn more about ESE through university courses and reading the academic literature. Although supportive of the development of democratic skills and values, and of action competence within ESE, I was concerned that the importance, and practice, of values education was being lost. My MA dissertation *Education for Sustainability: Investigating pro-environmental orientation in 10-12 year olds in UK schools* (Jordan, 2012), researched pupils' levels of pro-environmentalism in seven primary schools, in relation to the environmental/sustainability education received at school. The results suggested schools that reinforce intrinsic values have students with higher levels of pro-environmental orientation. However, the research also emphasised the complexity of value behaviour theory and the influence of confounding variables. My MA research fuelled my interest in investigating this issue further.

As stated in section 1.1, I became interested in interdisciplinary research involving the ESE and CE fields after reading Kristjánsson's (2004) research on character and citizenship education, which was critical of attempts to

'sideline' character education in the 'moral basics' through a narrow focus on educating for democratic knowledge, skills, and values. The research resonated with me in terms of my own concerns regarding the move towards a democratic education focus within ESE, and the diminishing importance placed on the values aspect. Therefore, I am certainly not neutral in terms of my belief in the essential role of values education within ESE. Additionally, I carried out this research in the belief that interdisciplinary research can lead to a deeper understanding of issues.

Based on my experience and background, two main assumptions were made regarding this study:

1. The values education aspect of ESE is crucial. This assumption is based on social psychology research that has shown that values influence our attitudes and our behaviours, and pertinently places values at the base of social and environmental concern and action
2. Integrating insights from CE will add to our understanding on teaching of the values education aspect of ESE. This assumption is based on the basic premise of interdisciplinarity, that integrating insights from different disciplines, creating 'common ground', provides a more comprehensive understanding of the issue, and therefore a better basis for practice.

1.5 Working definitions of key terminology

The terms below are operationally defined—they clarify how these terms are used in *this* study.

Affective learning relates to values, attitudes, emotions and motivations (Krathwohl, et al. 1964/1973; Miller, 2005; Murray et al., 2014; Shephard, 2008). It is typically contrasted with cognitive learning and psychomotor/practical learning.

Character education is a subset of moral education concerned with the cultivation of positive character traits, usually called 'virtues' (Arthur et al., 2017, p. 20)

Environmental and sustainability education (ESE) aims to develop learners' knowledge, skills, attitudes, values, and motivation with the intention to enable a worldwide transition towards sustainability. It is largely an educational response to the environmental and societal issues/crises we face today.

Throughout this thesis, ESE has been, rather crudely, used as an umbrella term for the multitude of sustainability educations mentioned i.e. sustainability education, environmental education, education for

sustainable development, education for sustainability, sustainable education, etc. Although these approaches are different, with differing emphasis and outlook, for the purposes of this thesis, one consistent term was used for simplicity. ESE was chosen as it was considered an open and encompassing term, but importantly also emphasised the strong environment aspect (particularly the human-nature relationship) found in the data. However, when referring to Studies 1 and 3, (E)SE is used, since the term *sustainability education (SE)* was used in Article 1, and in the materials, data collection, and by the participants in Study 3. Additionally, if practical, when referring to other research that uses a different term to ESE e.g. ESD, the original term is used.

Moral education is a subset of values education relating to the moral sphere (e.g. human rights education, peace education) (Arthur et al., 2017, p. 20).

Sustainability: The ability to sustain. Used in the context of this thesis, based on Meadows et al.'s (1992) definition: A sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its ecological or social systems of support. Sustainability was chosen as opposed to sustainable development, since I think *ability* is a more appropriate term for an on-going state or process rather than a destination or finish line. See Giddings et al. (2002); Hopwood et al. (2005), and Bonnett (1999) on the problems of definitions (and approaches) regarding sustainability, in particular regarding *sustainable development*.

Values are fundamental convictions and abstract motivations that act as guiding principles in people's lives, shaping people's thoughts and attitudes, as well as guiding their actions and behaviour (Halstead & Taylor, 2000; Leiserowitz et al., 2006; Schwartz, 2007; Schwartz et al., 2012). They also act as 'the standards by which particular actions are judged as good or desirable' (Halstead & Taylor, 2000, p. 169).

Values education is any education in or about values as they are defined above (Arthur et al., 2017, p. 19). Scott & Oulton's definition of values education, in relation to 'environmental values education', is helpful:

> We see the values which individuals hold as being those actions, ideas and ideals which are of fundamental importance to them, and which act as guides to how they *feel* they ought to live their lives, interacting with other people and with other species. In this sense, values education can be seen as the

> systematic and planned attempts by teachers to explore such issues with learners—both in the context of the formal and informal curriculum and in the ways that the school as an organisation conducts itself, both internally and in its relationships with the wider community. (1998, p. 211)

Virtues are stable dispositions of character concerned with praiseworthy functioning in a number of distinctive spheres of human life (Arthur et al., 2017, p. 28)

1.6 Structure of the thesis

This chapter has introduced the thesis, the issues to be explored in this research, the purpose of the study, and the context in which the research was performed. In Chapter 2, the background of the research is discussed, beginning with the theories and concepts relevant to the research, before a discussion of previous research in the area, including the historical context of this study. Chapter 2 ends by presenting the intended contribution of the research and the research questions. Chapter 3 details the research design, including the methods and analysis used in each study, as well as ethical and trustworthiness issues associated with the research. Chapter 4 gives a summary of the findings from each of the three studies. In Chapter 5, the overall findings from the three studies are brought into discussion with the relevant concepts, theories and previous research findings. Chapter 6 identifies some implications of the findings, including suggested avenues for future research. The thesis ends by reflecting on the choices and limitations of the research, as well as a personal reflection on the research process.

2 Background of the research

In this chapter, the background of the research is discussed, beginning with the theories and concepts relevant to the research, before a discussion of previous research in the area, including the historical context of this study. Chapter 2 ends by presenting the intended contribution of the research and the research questions.

2.1 Theoretical background

2.1.1 Interdisciplinarity and the Interdisciplinary research Process (IRP)

Interdisciplinary research is a process of answering a question, solving a problem, or addressing a topic by drawing on disciplinary insights with the goal of integrating their insights to construct a more comprehensive understanding (Repko and Szostak, 2017). Interdisciplinarity focuses on practical, problem-solving research, and integrating knowledge in a purposeful way (Repko and Szostak, 2017). An interdisciplinary research approach is justified when 'important insights concerning the problem are offered by two or more disciplines' (Repko and Szostak, 2017, p. 94).

As noted in Section 1.1, one approach to interdisciplinary research involves identifying an important connection between two previously unconnected disciplines or areas of enquiry (Lyall et al., 2011, p. 9), which in some cases involves recognising a 'hitherto "silent" discipline' that might offer insights into the problem that can be integrated with existing disciplinary insights or theories (Repko and Szostak, 2017, p. 94). An interdisciplinary approach to the problems facing the values aspect of ESE might produce new insights, knowledge and understanding. This research is based on the view that CE might offer new insights into the problems facing the values aspect of ESE.

Although there are many types of interdisciplinarity being practiced, Repko & Szostak (2017, p. 76) argue that these different types of interdisciplinarians 'essentially make decisions *within an overarching research process*'. Repko & Szostak (2017) developed the Interdisciplinary Research Process (IRP), a recognised approach to conducting interdisciplinary research consisting of 10 steps, which explain the decisions

and actions involved in the majority of interdisciplinary research projects. The IRP is depicted in Table 1.

Table 1

The Interdisciplinary Research Process (IRP)

The Integrated Model of the Interdisciplinary research process
A. Drawing on disciplinary insights
1. Define the problem or state the research question
2. Justify using an interdisciplinary approach
3. Identify relevant disciplines
4. Conduct the literature search
5. Develop adequacy in each relevant discipline
6. Analyse the problem and evaluate each insight or theory
B. Integrating disciplinary insights
7. Identify conflicts between insights and their sources
8. Create common ground between insights
9. Construct a more comprehensive understanding
10. Reflect on, test, and communicate the understanding

Note. Adapted from *Interdisciplinary Research: Process and Theory* (3rd ed) by A. Repko and R. Szostak, 2017, p. 78. Copyright 2017 by Sage Publications. Reprinted with permission.

The concept of interdisciplinarity and the IRP act as a grounding for this research. The IRP provides a framework to explore the integration of insights from ESE and CE, by drawing insights from both fields; creating 'common ground' shared by both disciplines; before constructing a more comprehensive, integrated understanding. The beginning stages of this research—the formulation of the problem and research questions, the context to the problem, and the background literature review are guided by the early steps of the IRP. Study 1's philosophical inquiry (theoretical analysis) can be viewed as covering steps 3–10, whereas Studies 2 and 3 (the case study and Delphi study) can be seen as covering steps 6–10.

2.1.2 Values theory and pro-environmental behaviour

Values can be described as deeply rooted, fundamental convictions and abstract motivations that act as guiding principles in people's lives, shaping people's thoughts and attitudes, as well as guiding their actions and behaviour in certain distinct ways (Halstead & Taylor, 2000; Leiserowitz et al., 2006; Schwartz, 2007; Schwartz et al. 2012;). Values transcend specific situations or actions, for example honesty is relevant in many different situations, and it is this trans-situational quality that distinguishes values from narrower concepts like norms, attitudes and opinions—concepts that usually refer to specific actions, objects or situations (Schwartz, 2007). Values also function as standards for both judging and justifying action (Halstead & Taylor, 2000; Leiserowitz et al., 2006; Schwartz, 1994). They are 'acquired both through socialization to dominant group values and through the unique learning experiences of individuals' (Schwartz, 1994, p. 21).

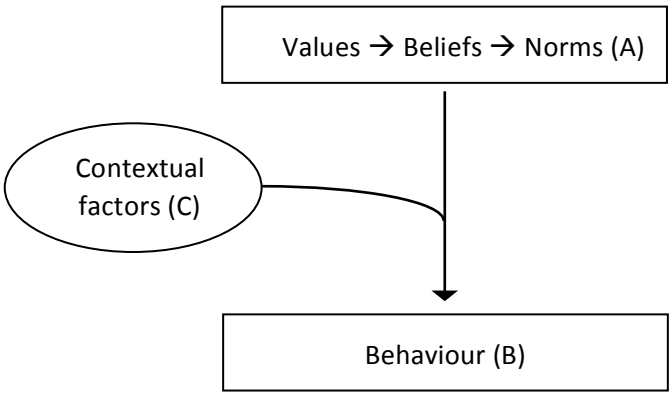
A growing body of research in social psychology suggests prioritising intrinsic values and goals (linked to personal growth and positive connection to people and nature) has a notable effect on people's behaviours related to social, environmental and sustainability issues (Braito et al., 2017; Corral-Verdugo et al., 2014; Kasser, 2011; Kasser & Ryan, 1996). Conversely, people who prioritise extrinsic values and goals (linked to the conditional approval of others, such as social recognition or financial success) have been found to be more prejudiced towards ethnic and disadvantaged groups (Duriez et al., 2007), are more likely to engage in unethical business practices or antisocial behaviours (Kasser et al., 2006), are less likely to recycle (Vansteenkiste et al., 2004), and exhibit less ecological attitudes and behaviours (Kasser, 2011). Furthermore, prioritising intrinsic values and goals has also been shown to increase individuals' sense of well-being, whereas a focus on extrinsic values and goals leads to lower life satisfaction (Brown and Kasser, 2005; Kasser, 2002, 2011).

Of course, there are many factors at play in human behaviour. Leiserowitz et al. (2006) describes three types of barriers to sustainable behaviours: First the existence and strength of particular values—although the majority of people consider the current human-nature relationship unsustainable, this remains a low priority relative to, for example, economic growth. Secondly, individual barriers such as 'time, money, access, literacy, knowledge, skills, power, or perceived efficacy to translate their values into action' (Leiserowitz et al., 2006, p. 439). Thirdly, structural barriers, such as laws, regulations, infrastructure, available technology, social norms, as well as the broader social, economic, and political context.

Stern (2000, p. 412) and colleagues developed the 'Value-belief-norm' theory of environmentalism, which combines values theory with both norm-activation theory and an ecological worldview (for more on ecological worldviews and the 'New Ecological Paradigm' see Dunlap et al., 2000; Sterling 2001, 2009; Fien 1993/1995). In simple terms, Stern's theory postulates that values affect beliefs, which in turn influence our personal norms, in this case, our sense of obligation to take pro-environmental actions. This sense, or 'norm', creates a personal disposition that influences all kinds of behaviour taken with pro-environmental intent. However, as noted above, behaviour-specific norms and other social-psychological factors (e.g. perceived costs and benefits of action, beliefs about the efficacy of particular actions) can affect particular pro-environmental behaviours (Stern, 2000, p. 413). This can be explained by an adapted 'ABC theory': Behaviour (B) is an interactive product of personal-sphere attitudinal variables (norms, beliefs and values) (A) and contextual factors (C) (Stern, 2000, p. 415; see Figure 1). When contextual factors are neutral the association between attitude and behaviour is strongest. It approaches zero however when contextual forces are strongly positive or negative, 'effectively compelling or prohibiting the behaviour in question' (Stern, 2000, p. 415). For behaviours that are more difficult, time-consuming or expensive, the less attitudinal factors seem to influence them. Other factors affecting behaviour are personal capability (the person's actual ability to `perform a behaviour) and habit or routine (Stern, 2000, p. 415).

Figure 1

ABC model of behaviour



Note. From Towards a Coherent Theory of Environmentally Significant Behavior by P. Stern, 2000, *Journal of Social Issues, 56*(3), pp. 415–419.

In their paper 'Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior?', Kollmuss & Agyeman (2002) review numerous theories on pro-environmental behaviour. They state that 'values and attitudes clearly play an important role in determining pro-environmental behaviour' (Kollmuss & Agyeman, 2002, p. 253). However, their proposed 'Model of pro-environmental behavior' (Kollmuss & Agyeman, 2002, p. 257), which depicts interactions between values, knowledge, emotions, personality, habit, as well as social, cultural and economic influences (to name a few), demonstrates the complexity of, as well as the uncertainty surrounding, the process leading to pro-environmental behaviour.

In summary, current thinking in value-behaviour theory places values at the base of environmentalism and pro-environmental behaviour. However, the process that leads to pro-environmental behaviour is a complex one, influenced by many factors. What can be taken from the current understanding is that all else being equal, the extent that an individual holds pro-environmental values will determine how pro-environmental that individual will act. Therefore, it should follow that fostering pro-environmental values in individuals is likely to increase their pro-environmental behaviour. However, barriers to enactment of these values *also* need to be considered and addressed.

In relation to ESE, in UNESCO's *Issues and trends in Education for Sustainable Development*, Rieckmann (2018, p. 45) noted that while competencies, such as critical thinking, relate to the capacity for 'sustainability performance', competencies by themselves don't necessarily result in sustainable actions, and 'to transform capacities into real sustainable actions, individuals need corresponding values and motivational drivers' (see also Leiserowitz et al., 2006) as well as supportive environmental or contextual factors or 'opportunities' that enable action.

In terms of this research, the concept of values and the theory regarding their role in pro-environmental behaviour, and also ESE, provide a basis for the research and justify a focus on the values aspect of ESE.

2.1.3 ESD 1 and ESD 2

Vare & Scott (2007) describe the 'two sides' or approaches of ESD, which they term ESD 1 and ESD 2. ESD 1 refers to education that is expert-knowledge driven, that promotes or facilitates changes in what we do, and promotes behaviours and ways of thinking. Whereas, ESD 2 refers to education that builds 'capacity to think critically about [and beyond] what

experts say and to test sustainable development ideas' and explores 'the contradictions inherent in sustainable living' (Vare & Scott, 2007, p. 194). The former approach is seen as predominantly based on a behavioural/deterministic approach and the latter a critical/competencies approach (Wals, 2011). Values education is placed within ESD 1:

> In ESD 1-dominated programmes, sustainability values and principles are explicit while the values of learning for learning's sake may be implicit if stated at all. With ESD 2, the values of learning are explicit whereas sustainability values may be implicit. (Vare & Scott, 2007, p. 195)

Vare & Scott (2007) indicated that ESD 1 is the approach taken by UNESCO and the DESD and noted 'a deep-rooted preference for ESD 1 both in policy prescription and the work of nongovernmental organisations' (p. 195). They argue that a solely ESD 1 approach is worrying as 'people rarely change their behaviour in response to a rational call to do so, and . . . too much successful ESD 1 in isolation would *reduce* our capacity to manage change ourselves and therefore *make us less sustainable*' (Vare & Scott, 2007, p. 194–195).

Wals likewise describes the emergence of two pedagogical interpretations of ESD, one interpreting ESD 'as a means to transfer the "appropriate" sets of knowledge, attitudes, values and behaviour' and the other 'as a means to develop people's capacities and opportunities to engage with sustainability issues so that they themselves can determine alternative ways of living' (UNESCO, 2009, p. 27). Wals and colleagues (Wals et al., 2008) referred to these two approaches as 'instrumental environmental education' and 'emancipatory environmental education', where the instrumental approach 'is expert driven (there is a strong sense of what is 'right,' what needs to be done and a high degree of confidence and certainty in both the current knowledge base and the kind of behaviour that is needed)' while the emancipatory approach 'is process driven (where there is a strong sense of empowering, involving and engaging learners in issues that affect them and/or others, and less certainty about the current knowledge base and the kind of behaviour that is needed)' (Wals, 2011, p. 177-178). Wals states (2011, p. 179) the instrumental approach: 'stifles creativity, homogenises thinking, narrows choices and limits autonomous thinking and degrees of self-determination'. Values education, when viewed as a component of Wal's instrumental approach, is considered

deterministic, undemocratic and 'contradicts the very foundation of education and borders on indoctrination' (Wals, 2011, p. 179).

Conversely, Sterling (2003, p. 262) warned that although contextual, problem-based and participatory learning (ESD 2) is welcomed, it is only part of the story, and alone it can be ethically bereft and do little to support the move towards a more ecological, or sustainable, perspective (See also Kopnina, 2012; Washington, 2018). Meanwhile, Bonnett (2003, 2004) criticises the focus on critical approaches as putting too much faith in rationality. Firstly, Bonnett (2003) questions the ability of students to make rational choices in light of the powerful influences present in a neoliberal society; Kretz (2014) for example, argues the neoliberal ideology appropriating westernised education fosters visions of self that are individualistic, consumerist, and competitive. Secondly, Bonnett believes 'modern rationality is itself not neutral but expresses certain aspirations towards the world (notably to classify, explain, predict, assess, control, possess and exploit), . . . rationality that has led to our current environmental predicament' (Bonnett, 2003, p. 699; See also Sterling, 2001, 2010, 2014).

Vare & Scott (2007) concluded by arguing against the 'either/or debate that tends to dominate ESD discourse in favour of a yes/and approach' (p. 198) that, rather than seeing the two approaches 'as absolute opposites held apart along a continuum, or as competing sets of skills' (p. 195), considers the two approaches complimentary.

The ESD 1/ESD 2 dichotomy forms a backdrop for this research, in that it illustrates the tensions between the values aspect of ESE and a critical (ESD 2) approach to ESE, and the associated educator concerns regarding democracy and indoctrination. This research aims to further our understanding of the values aspect of ESE, including how it relates to other aspects of ESE that fall under both ESD 1 and ESD 2.

2.1.4 Affective learning theory

In the last century, Bloom's Taxonomy of three learning domains: the cognitive, the psychomotor, and the affective domain, gained prominence. The cognitive domain relates to factual knowledge, analytical thought and synthesis, etc., and the psychomotor relates to practical skill-based learning (Krathwohl et al., 1964/1973). The affective domain relates to values, attitudes, emotions and motivations (Krathwohl et al.1964/1973; Miller, 2005; Murray et al., 2014; Shephard, 2008).

Krathwohl et al. (1964/1973) depict it, like the better-known cognitive learning domain, as a hierarchy of levels of learning, beginning with *Receiving*, moving upwards through *Responding*, *Valuing*, *Organising*, and finally reaching *Characterising*, which can be described in the following way:

> The individual is characterised [by] the values they have internalised and organised, such that the values become a system of attitudes and tendencies that control much of their behaviour. This internalisation and organisation of values also results in the integration of beliefs, ideas, and attitudes into a total philosophy or world view. (Belton, 2016, p. 61)

Many researchers have argued for the importance of integrating cognitive, psychomotor/physical and affective learning in ESE. Shephard (2008, p. 95) argued 'a central element of education for sustainability is a quest for affective learning outcomes of values, attitudes and behaviours'. Murray et al. (2014) have argued the importance of ESE (/ESD) 'blending affective and behavioural aspects of learning (values, attitudes and beliefs) with capacity building (the development of appropriate knowledge and skills)' (p. 721) as the transformative nature of affective leaning enables leaners to 'develop personal attributes that can motivate them to embrace change and to act sustainably' (p.719). Similarly, Podger et al. (2010) refer to the importance of fostering moral motivation as part of a whole-person approach to educating for sustainability, and found that 'without the cultivation of moral motivation, systemic critical thinking in itself does not appear to lead automatically to socially responsible action' (p. 344). However, they also stress:

> Without systemic critical understanding, the socially responsible action inspired by moral motivation is significantly constrained. Hence it becomes clear that nothing short of a whole-person approach to education can hope to cultivate the kind of globally responsible consciousness that can inspire people toward sustainable living. (Podger et al., 2010, p. 345)

As noted above, in an examination of the learning dimensions of ESD and Global Citizenship Education (GCE), UNESCO (2019) argued that for effective teaching and learning of both ESD and GCE, all three interrelated dimensions of learning—the cognitive, social and emotional, and

behavioural—need to be developed in union; this being essential 'to advance a value-based and holistic approach to learning that is truly transformational' (p. 7).

The concept of affective learning, and Krathwohl et al.'s (1964/1973) theory regarding the affective learning domain, are key to Study 2, in particular the analysis of the findings. They also influence the synthesis of findings from Studies 1–3. However, the concept of affective learning, in incorporating values and values education underlies the research as a whole.

2.1.5 Head-hands-heart

Sipos et al. (2008, p. 74) describe the *head-hands-heart* approach to learning as 'essentially shorthand for engaging cognitive, psychomotor and affective learning domains'. Proponents of the *head-hands-heart* approach argue that current mainstream education places too much focus on the cognitive domain, at the expense of the psychomotor domain and especially the affective domain (Shephard, 2008; Sipos et al., 2008).

Orr (1992) stated that education for sustainability needed to 'connect disciplines as well as disparate parts of the personality: intellect, hands, and heart' (p. 137). Sipos et al. (2008) found *head-hands-heart* an effective 'organizing principle' for transformative sustainability learning that aims to balance the cognitive, psychomotor and affective domains of learning. Their developed teaching approach integrates transdisciplinary study (*head*); practical skill sharing and development (*hands*); and translation of passion and values into behaviour (*heart*). Singleton (2015) contended a holistic framework comprised of head, heart and hands can offer an approach to ESE that offers meaning and purpose to the learner through deep engagement, reflection and relational understandings.

The *head-hands-heart* approach to ESE also draws parallels with the 'Education for the environment/sustainability' approach proposed by Fien (1993/1995) and others in the 1990s. Notably, Tilbury (1997) wrote an article advocating for environmental education *about*, *in* and *for* the environment, which she aligned with the *head*/knowledge, *heart*/values, and *hands*/responsibility and active participation respectively (see also Tilbury, 1995).

The theory of a head-hands-heart approach to learning connects with the concept of affective learning described in Section 2.1.4, as well as linking to holistic education (See Section 2.1.6). These three concepts

underlie this research but are particularly important in the analysis of findings from Study 2.

2.1.6 Holistic education

The *head-hands-heart* approach to learning is at the centre of holistic education (Miller, 2019; Singleton, 2015) and is associated with the concept of 'educating the whole child'. Unlike much contemporary, mainstream, westernised education, the holistic education approach fosters and integrates academic and 'non-academic' aspects of education and considers the emotional, social, cultural, and moral development of pupils as important as their 'intellectual' development. Although the holistic education movement does not have a dominant form, Forbes (1996) found 'a number of values and perceptions that most schools claiming to be holistic would embrace' (p. 1): relationships to the larger whole/systems thinking, self-transcendence, school as community, cooperation not competition, inclusion and respect of diversity and uniqueness, self-determination, teacher as facilitator, cooperative learning, critical thinking, interdisciplinary curricula, and democratic often grassroots/cooperative organisation. Holistic education has a focus on the fostering of pupil's critical thinking *and* emotional and moral development. As such, holistic education, and in particular the associated *heads-hands-heart* approach to learning, may provide an alternative to, or a means to combine, the ESD 1 and ESD 2 approaches to ESE, and in particular help address the values aspect of ESE.

2.1.7 Virtue ethics

Ethics is concerned with the morality of human conduct and character, and moral theories typically offer us both an account of moral value and so-called normative ethics as methods of determining a moral course of acting and being. Virtue ethics is one of the three main current approaches to normative ethics, the other two being deontology (e.g. Kantianism), emphasising rules and duties, and consequentialism, emphasising beneficial outcomes, which in the case of the most common consequentialist theory, utilitarianism, is the maximisation of wellbeing (understood either subjectively, objectively or both) (Hursthouse, 1999). Virtue ethics, in contrast, approaches the morality of human conduct by emphasising the virtues needed for the development of moral character. The virtues (*aretē*) are seen as multi-component traits of character, and good character is in turn seen as constitutive of—rather than simply conducive to—human

flourishing (Aristotle, ca. 335–332 BCE/1985, p. 44 [1106b15–1107a5], p. 19 [1098b20–25]).

In the *Nicomachean Ethics*, Aristotle proposes a theory of 'human flourishing' (*eudaimonia*) as the ultimate good and goal (*telos*) of human beings (Kristjánsson, 2007). Flourishing can be thought of as thriving, as living well in a profound sense, as living a good and meaningful life. Flourishing entails more than mere contentment or pleasure (see e.g. Foot 2001), and is instead human activity that actualises the virtues: 'Aristotle's *eudaimonia* is a moralised notion; it is impossible to achieve eudaimonia without being morally good' (Kristjánsson, 2007, p. 15).

The moral theory of virtue ethics is the central theory used in Study 1. A more detailed and applied description and discussion of virtue ethics (and its links to the environment and sustainability) can be found in Article 1.

2.2 Previous research

In this section, previous research regarding the values aspect of ESE will be discussed. This discussion will be divided into several sub-sections: Historical context (Section 2.2.1); Values education and pluralism (Section 2.2.2); Combining the values and critical aspects of ESE (Section 2.2.3); Educational approaches to the values aspect of ESE (Section 2.2.4); The human-nature relationship (Section 2.2.5); and Character education (Section 2.2.6)

2.2.1 Historical context

This sub-section, will examine the relevant history of ESE, in particular how the values aspect has altered in status in relation to the changing approaches and shifting emphases within the discourse of the overarching ESE field.

> No matter how much our thinking about environmental education has changed over the years, and irrespective of whatever ideological perspectives have held sway, the notion that a consideration of values should have a central part in the process of such an education has been an enduring theme. (Scott & Oulton, 1998, p. 209)

The origins of environmental education could be traced back to the early influences of Jean-Jacques Rousseau (1712-1778), who wrote in his 1762 educational philosophy novel 'Emile' of the need for education to include a

focus on the environment (McCrea, 2006); and, a century later, Louis Agassiz (1807-1873), a prominent scientist, encouraged pupils to 'study nature, not books', to learn directly from nature (as cited in McCrea, 2006, p. 1).

During the nineteenth century several written works addressed the human-nature relationship, including Ralph Waldo Emerson's 1836 essay 'Nature' which argued that society's flaws and distractions were destroying the wholeness of the human-nature relationship, and that humans and nature were one. In 1854, Henry David Thoreau published 'Walden; or, Life in the Woods' which was an introspective reflection on the author's experiences of immersing himself in nature, 'simple living' and self-sufficiency while living alone in a woodland cabin near Walden pond, Massachusetts. George Perkins Marsh published *Man and Nature* in 1864, which warned against deforestation and desertification, and marked the beginning of the conservation movement.

During the late nineteenth and early twentieth centuries the nature study movement gained prominence, with Wilbur Jackman's 'Nature Study for the Common School' published in 1891, and later Anna Botsford Comstock's 1911 'Handbook of Nature Study' (McCrea, 2006; Carter & Simons, 2010). Nature study sought to combine scientific investigation with a more immersive and in-depth personal experience of the natural world.

The twentieth century saw the emergence of the conservation movement spearheaded by figures such as John Muir (1838–1914), Enos Mills (1870–1922), and Aldo Leopold (1887–1948) (McCrea, 2006, Carter & Simons, 2010). The movement was propelled forward by the United States' 'Dust Bowl' during the 1930s, brought about by unsustainable agricultural practices. Leopold's landmark 1949 'A Sand County Almanac' called for a 'land ethic' and stated 'A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise' (Leopold, 1949/1989, p. 224-225). Conservation education aimed to combined nature study with the need to conserve natural resources for both consumptive and non-consumptive purposes (Carter & Simons, 2010, p. 11).

Another strand in the history of ESE is outdoor education. Outdoor education has been defined in various ways, and today encompasses a variety of approaches e.g. conservation education, wilderness and adventure experiences, recreation activities, forest schools, and environmental education. It is more often seen as a method for learning based on experiential learning, its philosophy drawing on, for example,

Comenius (1592–1670), Rousseau (1712-1778) and Dewey (1859-1952) (Carter & Simons, 2010; Priest, 1986), as well as being influenced by Thoreau, Muir and Leopold. Outdoor education became widespread in the 20th century, spearheaded by Kurt Hahn who established the Outward Bound Program in 1941; as well as being influenced by the Scouting movement, established in 1907. Donaldson and Donaldson (1958, p. 17) defined outdoor education as 'education in, about, and for the outdoors', whereas Priest highlighted the interpersonal development aspects stating:

> Outdoor education is the blending of both adventure and environment approaches into a program of activities or experiences. Through exposure to the outdoor setting, individuals learn about their relationship with the natural environment, relationships between the various concepts of natural ecosystems, and personal relationships with others and with their inner self. (1986, p. 15)

The three disciplines outlined above—nature study, conservation education, and outdoor education—can be viewed as predecessors to ESE (Carter & Simons, 2010, p. 11-12).

Environmental education became a distinct concept and discipline in the 1960s, brought about by an increased public awareness of environmental problems driven by warnings from the scientific community and by the publication of books such as Rachel Carson's *Silent Spring* in 1962, and Paul Ehrlich's The *Population Bomb* in 1968 (Carter & Simons, 2010; Gough, 2013; McCrea, 2006). Environmental education was viewed as a necessary component of any solution to the environmental crisis (Gough, 2013). It brought together aspects that were scattered across conservation education, nature studies, and outdoor education (Carter & Simons, 2010; Stevenson et al., 2016; Tilbury, 1995;). The theory behind early approaches in environmental education reflected these beginnings, with a focus on apolitical, ecological content, scientific and technical skills (Gough, 2013; Tilbury, 1995), and on students spending time in nature, with the assumption that 'awareness of nature would lead to changes in individuals' attitudes and behaviours' (Stevenson et al., 2016, p. 2).

In 1969, Bill Stapp and colleagues defined environmental education as education 'aimed at producing a citizenry that is *knowledgeable* concerning the biophysical environment and its associated problems, aware of *how* to help solve these problems and *motivated* to work toward their solution' (Stapp et al., 1969 as cited in Gough, 2013, p. 15).

In 1970, the International Union for the Conservation of Nature and Natural Resources (IUCN) convened an International Working Meeting on Environmental Education in the School Curriculum, which recognised a definition of environmental education as:

> [T]he process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture and his biophysical surroundings. Environmental education also entails practice in decision-making and self-formulating of a code of behavior about issues concerning environmental quality. (As cited in Gough, 2013, p. 15).

The mid-late 1970s saw the environmental education agenda became more progressive, evident in the UNESCO-UNEP Belgrade Charter in 1975 and Tbilisi Declaration in 1977 that both specified 'active student involvement in investigating and working toward resolving environmental problems' (Stevenson et al., 2016, p. 2). Attention was increasingly being given to the links between the economic, social, political, and ecological, and the need for conservation to take account of poverty reduction and development, laying the ground for the later concept of sustainable development (Huckle, 2014). The Tbilisi Declaration, which built on the Belgrade charter, listed the goals of environmental education as (UNESCO, 1978, p. 26):

a) to foster clear awareness of, and concern about, economic, social, political, and ecological interdependence in urban and rural areas;
b) to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment;
c) to create new patterns of behavior of individuals, groups, and society as a whole towards the environment.

It listed the objectives of environmental education as helping social groups acquire the *awareness* and sensitivity to the environment; the *knowledge*, understanding and experience of the environment and its associated problems; the *attitudes*, values, and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection; the *skills* for identifying and solving environmental problems; and the opportunity to *participate* and be actively

involved at all levels in working toward resolution of environmental problems (UNESCO, 1978, p. 26-27).

During the 1970s and 1980s much research was devoted to defining what exactly environmental education entailed and aimed for (Gough, 2013). A central aim of environmental education emerged as being the acquisition of responsible or pro-environmental behaviour(s) (Gough, 2013; Stevenson et al., 2016). This was tied to the U.S.-led behaviourist and post-positivist focus in research that sought to evaluate the effectiveness of environmental education programmes with predetermined ends (Gough, 2013; Stevenson et al., 2016). Drawing on the fields of social and behavioural psychology, the behavioural approach sought to address the issue of the so-called 'knowledge-action gap', and the realisation that teaching merely the facts of ecology and environmental problems did not seem to have the desired affect on behaviour—there was too little focus on practical solutions (Breiting, 2000; Sterling, 2009).

However, during the mid-1980s the focus in environmental education turned to the social and political aspects of environmental issues (Stevenson et al., 2016; Tilbury, 1995). Socially critical theorists challenged the dominant view that the desired outcome of environmental education was predetermined, pro-environmental behaviours (Stevenson et al., 2016). They argued that a focus on identifying ways of eliciting responsible environmental behaviour, 'fails to recognise the influence of socioeconomic structures on individual behaviour' and that 'the goal remains contrary to the idea of empowering individuals and communities to make their own decisions about environmental issues and to organise for collective political action' (Stevenson et al., 2016, p. 2).

Huckle criticised the individual values aspect of environmental education as failing to take account of the wider social and political systems: 'People are to be converted; their hearts and minds, their values changed . . . [but] it gives values a prominence they do not deserve and overlooks issues of power' (Huckle, 1986, as cited in Gough, 2013, p. 17).

The late 1980s also saw the beginning of a shift from environmental education to 'education for sustainable development'. The term sustainable development emerged in the IUCN *World Conservation Strategy*, which defined sustainable development as: 'the integration of conservation and development to ensure that modifications to the planet do indeed secure the survival and well-being of all people' (IUCN, 1980, Section 1.2). The strategy aimed to combine development and conservation/environmental protection concerns, as well as understand environmental issues within the

social, economic and political context (Huckle, 2014; Tilbury, 1995). However, the term 'sustainable development' gained more prominence with the publication of The World Commission on Environment and Development (WCED)'s *Our Common Future*, also known as the Brundtland report, in 1987, which famously defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, p. 43).

The 1990s saw the emergence of 'Education *for* the environment' (as opposed to education *in* or *about* the environment), a social critical approach with a transformative orientation (Fien, 1993/1995, p. 14). The approach emphasised the development of awareness of the link between social justice and environment issues ('red-green', eco-socialist environmentalism), the development of critical thinking and problem-solving skills, and the development of political literacy (Fien, 1993/1995). Although critical of a focus *solely* on the individual/personal transformation, it considers values education (including development of democratic values such as fairness), or development of an 'environmental ethic', an essential component of environmental education (Fien 1993/1995, p. 59; Tilbury, 1995, p. 210[1]). See more on this approach in Section 2.2.3.

The late 1990s also saw the emergence of the action competence approach in Scandinavia. This approach is similarly critical of the behaviour modification approaches to environmental education, arguing that prescribing behaviour in the present, as well as being undemocratic, lacks a crucial future perspective—developing the ability to address as yet unknown environmental problems of the future, that themselves are likely to change with time and circumstance (Breiting & Mogensen, 1999; Jensen & Schnack, 1997). Proponents also similarly argued that 'environmental problems are structurally anchored in our society' their solutions therefore require changes at both the societal and individual level (Jensen & Schnack, 1997, p. 164). Breiting & Mogensen (1999, p. 350) describe the action competence approach as 'a critical, reflective and participatory approach by which the developing adult can cope with future environmental problems'. Action competence itself can be defined as:

[1] Tilbury (1995) refers to the similar 'Environmental Education for Sustainability' (EEfS).

> [A] person's ability to get involved, investigate an issue, reflect critically, make up his/her mind, and to act accordingly individually and together with others in a responsible way. (Breiting, 2000, p. 163)

Students are presented with environmental issues as complex and dynamic situations involving differing views and conflicts of interest (Hart, 2000). Learners become competent in creating and assessing alternative solutions (Breiting, 2000).

Although developing pupils' 'action willingness', as well as their 'action ability', to be involved in environmental issues in a democratic way is part of the action competence approach (Breiting & Mogensen, 1999; Jensen & Schnack, 1997), there is little written on the former and more emphasis on the latter. Jensen & Schnack (1997) leave the question open as to whether action competence should build on basic values, and whether this would be possible, democratic or culturally relative. Breiting (2000, p. 153), however, is more overtly critical of the 'attitudes and behaviour' approach, though also comments that the thinking behind action competence approach has an altruistic value base.

A major development in the values aspect of ESE occurred in 2000 when, following discussions dating back to the 1987 WCED, and a decade-long, international dialogue on common goals and shared values, *The Earth Charter* was launched by the Earth Charter Commission. In 2003, UNESCO passed a resolution recognizing the charter as 'an important ethical framework for sustainable development' (UNESCO, 2006, p. 15). *The Earth Charter* lists fundamental principles based upon international, environmental conservation, and sustainable development law and the various UN meetings that took place in the 1990s, reflecting the emerging consensus in global civil society (UNESCO, 2006). The charter aims to provide an ethical foundation for a sustainable, just, and peaceful world, based upon four main commitments: Respect Earth and life in all its diversity; care for the community of life with understanding, compassion, and love; build democratic societies that are just, participatory, sustainable, and peaceful; and secure Earth's bounty and beauty for present and future generations (Earth Charter, 2000). The charter aims primarily to promote dialogue on the values and principles needed for a sustainable way of life; promote individuals' ethical development; and inspire collaboration, cooperation, and action (Earth Charter International, 2005, p. 5-6).

The official education guide is extremely open in terms of teaching approach, and asserts 'there is not a single "best way" to use the Earth Charter in education'. However it emphasises the importance of experiential learning, arguing it 'is particularly important for ethics education, for it is when we are engaged in action that our values are applied and tested' (Earth Charter International, 2005, p. 7).

In December 2002, the UNGA declared a Decade of Education for Sustainable Development (DESD) (2005–2014), with UNESCO its lead agency. The overall goal of the DESD was:

> To integrate the values inherent in sustainable development into all aspects of learning to encourage changes in behavior that allow for a more sustainable and just society for all. (UNESCO, 2006, p. 4)

The UNESCO 2006 Framework for the UN DESD International Implementation Scheme listed the keys areas of sustainable development as society, environment, and economy, with culture as an interconnecting, underlying dimension (UNESCO, 2006, p. 14). The framework defined culture as: 'ways of being, relating, behaving, believing and acting that differ according to context, history and tradition, and within which human beings live out their lives' and emphasised that 'practices, identity and values . . . play a big role in setting directions and building common commitments' (UNESCO, 2006, p. 14).

Values feature heavily throughout the framework, and Section 2.2 specifically addresses the promotion of values. The framework argues: 'ESD is fundamentally about values, with respect at the centre: respect for others, including those of present and future generations, for difference and diversity, for the environment, for the resources of the planet we inhabit' (UNESCO, 2006, p. 4).

The framework goes on to list the desirable features of ESD: Interdisciplinary and holistic; critical thinking and problem solving; multi-method/approach; participatory decision-making, applicability/real-life learning experiences; local and global relevance, and:

> Values-driven: it is critical that the assumed norms—the shared values and principles underpinning sustainable development—are made explicit so that they can be examined, debated, tested and applied. (UNESCO, 2006, p. 17)

The DESD saw a swell in ESE initiatives, programmes and practices (see UNESCO, 2021). In a mid-point review of the DESD, Wals (UNESCO, 2009) differentiated the two pedagogical interpretations of ESD, what he elsewhere refers to as the instrumental and emancipatory approaches as discussed in section 2.1.3 in relation to ESD 1 and ESD 2 (See also Wals et al., 2008). In an end of decade review of the DESD, Huckle & Wals (2015) criticised the discourse of the decade as being 'reformist' and 'suggesting that shifts in values, lifestyles and policy within prevailing forms of society, will be sufficient to put global society on a sustainable path' (p. 491). They went on to criticise the DESD as paying:

> Too little attention to power, politics and citizenship; the ways in which neoliberalism has made the adoption of sustainable behaviours and lifestyles less likely; what alternative forms of social and environmental relations (political economy) would aid their realization; and whether students should consider liberal and radical views of social change alongside the reformist, and sometimes idealist views reflected in the literature of DESD. (Huckle & Wals, 2015, p. 492)

In 2013, UNESCO endorsed the Global Action Programme (GAP) on ESD as the follow-up to the DESD. Building on the achievements of the Decade, the GAP aims to generate and scale up concrete actions in ESD, and 'to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development' (UNESCO, 2014, p. 14).

Around this time, building on the action competence approach described above, a competencies approach to ESE gained ground. Rieckmann (2018) connects this to the emancipatory/ESD 2 approach, and states a competencies approach to ESE aims 'to develop competencies that enable individuals to participate in socio-political processes and, hence, to move their societies towards sustainable development' (p. 41). Various previous research falls under the competencies approach e.g. de Hann's (2010) *Gestaltungskompetenz* (shaping competencies); Wals' (2015) sustainability competencies; Rieckmann's (2012) Key competencies for sustainable development; Wiek et al.'s (2016) Key competencies in sustainability; and Glasser and Hirsh's (2016) Sustainability core competencies. A UNESCO (2017), Education 2030 report on *Education for Sustainable Development Goals: Learning objectives* compiled a list of eight key competencies generally seen as crucial to advance sustainable

development: Systems thinking competency; anticipatory competency; normative competency; strategic competency; collaboration competency; critical thinking competency, self-awareness competency and integrative problem-solving competency. The normative competency refers directly to values, and is defined as:

> The ability to understand and reflect on the norms and values that underlie one's actions and to negotiate sustainability values, principles, goals and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions. (UNESCO, 2017)

The 2017 UNESCO report was published in light of the 2015, UN-launched Sustainable Development Goals (SDGs), 17 universal development challenges for humanity e.g. Zero Hunger, Responsible Consumption and Production; and Climate Action. Education is considered a key instrument to achieve the SDGs, as well as goal four being 'Quality Education', which includes the target of:

> By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. (UNESCO, 2017, p. 8)

The 2017 UNESCO report states individuals require 'the knowledge, skills, values and attitudes that empower them to contribute to sustainable development' (p. 7). There is an emphasis on competencies (as mentioned above); empowerment to act and to participate in socio-political processes; and learner-centred, action-oriented, transformative, participatory, problem-oriented, collaborative and inter/transdisciplinary pedagogies.

As mentioned in section 1.3, outlining the present context of the research, a UNESCO (2019) multiple-country study found 'ESD content included a greater focus on the cognitive dimension than the behavioural dimension and placed the least emphasis on the social and emotional dimension' (p. 8), values falling under the socio and emotional dimension. In another UNESCO report, Leicht et al. (2018, p. 15) stated 'ESD should go

beyond a focus on knowledge and skills to promote values and attitudes conducive to promoting sustainable development'. Thus, although values and affective learning have previously been, and continue to be considered components of ESE, the recent UNESCO reports show there is a preference for cognitive learning, and consequently the values aspect of ESE is currently being neglected.

2.2.2 Values education and pluralism

The ESD 2 or emancipatory approach to ESD/ESE links to the concepts of liberalism and pluralism. An ESD 2-type approach to the teaching of values advocates value pluralism and claims neutrality (Fien, 1993/1995; Kopnina & Cherniak, 2016; Scott & Oulton, 1998). This approach suggests teachers should treat environmental issues as controversial and deal with them in a 'balanced way'. Pupils are encouraged to consider all sides of an argument, formulate their own opinions, and decide how to act (Scott & Oulton, 1998, p. 217).

In research in relation to pluralism in ESD/ESE, Kopnina & Cherniak (2016, p. 828) questioned 'whether an open, pluralistic space alone will enhance individuals' competences to act on behalf of the environment' (See also Washington, 2015). Similarly, Scott & Oulton (1998) challenged the notion of a 'balanced view' when dealing with controversial issues and questioned the 'success criteria' of such an approach, asking:

> Would we be happy if two-thirds of the class adopted what would conventionally be seen as an 'anti-environmental' stance at the end of the programme of work? Would we be content if the result were 50:50 or are we only content when the majority adopt the 'environmentally positive' attitude? If the latter is the case, would it not be better to live out our own values and be open about this? (p. 219)

Kopnina & Cherniak (2016) asserted an approach based on pluralism can leave more ecocentric stances as radical outliers. Further, they consider a pluralistic approach anthropocentric and undemocratic in relation to the environment, by not giving nature a voice, 'some animals are more equal than others' (Kopnina & Cherniak, 2016, p. 831), and they call for a radical reconceptualization of the meaning of pluralism to include the more-than-human. Kopnina & Cherniak (2016) also drew attention to the fact, despite being opposed to approaches that foster predetermined values, the pluralistic (ESD 2) approach itself is instrumental and value laden in terms

of advocating for social and economic equity. This suggests somewhat of a values hierarchy within the pluralistic approach, meaning anthropocentric/human-centred democratic values i.e. relating to people-people relationships, are held more important than values relating to people-nature relationships.

Additionally, many authors have argued it is unrealistic to regard any education as 'neutral' or value-free, and that it is far better to be explicit about it (Arthur et al., 2017; Fien, 1993/1995; Scott & Oulton, 1998; Tilbury, 1995). Scott & Oulton (1998) stated teachers who avoid controversial, value-laden issues fail to realise that such a decision is value dependent itself. In this vein, Fien (1993/1995) argued:

> The liberal orientation does not appreciate that school curricula and practices reflect dominant patterns of power and control in society or that the ideological function of the curriculum (both hidden and overt) means that schools and courses cannot avoid inculcating particular values. (p. 65)

Recently there has been a resurgence in calls to combine the values aspect of ESE with a critical approach. For example, Podger et al. (2010) refer to the importance of fostering moral motivation as part of a whole-person approach to educating for sustainability, and found that 'without the cultivation of moral motivation, systemic critical thinking in itself does not appear to lead automatically to socially responsible action' (p. 344). However, they also stress:

> Without systemic critical understanding, the socially responsible action inspired by moral motivation is significantly constrained. Hence it becomes clear that nothing short of a whole-person approach to education can hope to cultivate the kind of globally responsible consciousness that can inspire people toward sustainable living. (Podger et al., 2010, p. 345)

2.2.3 Combining the values and critical aspects of ESE

As noted in Section 2.2.1, previous research on integrating the values aspect and critical aspect in a holistic approach to ESE took place during the 1990s. The *Education for the Environment* and *Environmental Education For Sustainability* approaches of the 1990s sought to combine a social critical approach with a strong values element (Fien, 1993/1995; Tilbury, 1995).

After compiling a review of ESE research, Tilbury (1995) proposed *Environmental Education For Sustainability* (EEFS), which, using holism as its philosophical base, sought to combine education *about* (knowledge and awareness), *in* (experiential time spent in nature, values) and *for* the environment. EEFS acknowledges that environmental and development problems involve physical, biological, social, economic, political, historical and cultural elements and that the understanding of any environmental issue must 'involve the study of the intersection and interaction of these elements' (Tilbury, 1995, p. 199).

In regards to values education, Tilbury (1995) argued the decision to participate in confronting environmental issues is not motivated by the cognitive realm, but is rather driven by a personal environmental ethic and a sense of responsibility:

> No amount of preaching to the citizenry about the perils of a polluted environment, the dangers of irresponsible disposal of wastes or deforestation and the benefits to mankind of greening the environment will make people act to seek to forestall environmental degradation unless they are imbued with a deep concern for the common good, a sense of responsibility for maintaining a balanced and healthy ecosystem and a strong drive to achieve harmony with nature. (UNESCO, 1990, as cited in Tilbury 1995, p. 201)

Tilbury (1995) therefore argued 'central to the success of EEFS is the promotion of an environmental ethic' (p. 201) with the core values of social responsibility, concern for others, and harmony with nature. Tilbury (1995) stressed 'EEFS does not merely hope that learning activities will lead to the development of an ethic. Instead it sets out positively to develop environmental awareness and concern'. EEFS requires that teachers move beyond 'values clarification' by encouraging learners to be critically reflective on their own values and their consequences for environmental quality; to justify their views; and to explore a variety of alternative values, including those of marginalised groups, like indigenous people and women. Teachers should not uphold a neutral stance and instead 'actively promote the consideration of values required for the development of sustainable lifestyles' (Tilbury, 1995, p. 202). Thus, 'EEFS is not limited to teaching *about* values, but extends to the teaching *of* values required for sustainable living' (Tilbury, 1995, p. 201). However, Tilbury (1995) also made clear that this does not entail indoctrination, and instead involves discussion and

consideration—a strategy well developed in in the fields of gender and race education (p. 202). Scott & Oulton (1998) also reference the positive approach taken by anti-racism programmes, pointing out there are already areas within education where certain changes in values, attitudes and behaviour are identified and worked towards. Additionally, EEFS is a holistic approach that, alongside values education, also includes issue-based learning, action-oriented and active-learning strategies (e.g. group discussion, role-playing), development of political literacy and critical skills.

Teaching students about values can aid in the avoidance of indoctrination by teaching students to identify the underlying values and value 'framing' of issues in society. In this sense, values education forms part of a critical approach. Understanding the deeper levels of motivation present in behaviours, practices, and ideologies is an important part of a holistic understanding of sustainability issues (Lewis et al., 2008; Tilbury, 1995). Fien (1993/1995) likewise notes that environmental education should provide the skills to analyse alternative viewpoints and recognise the underlying values.

Tilbury (1995) argues that critical thinking requires consideration of different ideological value positions taken. Likewise, Lewis et al. (2008), taking a systems thinking approach, suggest students need to see the integrated whole of issues comprised of interrelationships, of which values are an important aspect. Stevenson et al. (2016, p. 4) note that people's worldviews shape their understanding of socioecological issues, as well as influence individual and community actions.

Tilbury's (1995) research connects to research by Fien (1993/1995; see also Section 2.2.1), who likewise sought to combine values education and development of an environmental ethic with a critical approach, in what he named Education *for* the Environment (EfE). EfE was based upon the integration of social and ecological values and a socially critical orientation, centred on the premise that 'environmental problems are social problems and that their roots causes lies in the nature of the social systems in which they are found' (p. 32). Fien (1993/1995) argued for the need to address the role of schools in reproducing the socially and ecologically unsustainable values of the Dominant Social Paradigm (see Dunlap et al., 2000), that supports the competitive economy, market determinism, and affluent, consumer society. EfE had an overt agenda of values education and social change, however it was critical of a narrow focus on the transformation of personal values, stressing that 'the transformation of

personal values must be accompanied by a transformation of social and economic structures' (Fien, 1993/1995, p. 34).

Fien (1993/1995) believed critical educators, due to concern with an over-emphasis on personal transformation in many environmental education approaches, and the neglect of issues of political economy, power and structural change, had had a tendency to overlook 'the role that personal transformation plays in motivating and guiding people to work towards structural transformation' and 'the essential links between personal, social and ecological well-being'. Fien (1993/1995) proposed the critical approach could be enriched by a more holistic approach inclusive of these elements, provided that their inclusion wasn't to the detriment of ideology critique and structural change.

The research on EESE and EfS offered a holistic approach to ESE that incorporated both values education and a critical approach. However, as a challenge to the behavioural approach of the time, the development of critical thinking, problem-solving skills, and political literacy were more heavily emphasised (Fien 1993/1995), and the values aspect, seen as part of a critical approach, was eventually lost. Since that time, as can be seen in Section 2.2.1, the values aspect is often viewed within the instrumental/ESD 1 approach to ESD.

2.2.4 Educational approaches to the values aspect of ESE

2.2.4.1 A heads-hands-heart approach to ESE

The head-hands-heart approach to ESE is another approach that seeks to include the values aspect of ESE within a holistic approach. The head-hands-heart approach to ESE draws parallels with the EESE and EfS approaches proposed by Fien (1993/1995) and Tilbury (1995). In fact, Tilbury (1997) aligned environmental education *about*, *in* and *for* the environment with the *head*/knowledge, *heart*/values, and *hands*/responsibility and active participation respectively (see also Tilbury, 1995). Tilbury (1997) stated environmental education *about* the environment i.e. knowledge, awareness, and understanding was a vital dimension of learning, crucial to perception and judgement of issues, but acknowledged alone it cannot realise the action-oriented or participatory goals of ESE, and in a sense, was mere environmental studies. Tilbury (1997) saw education *in* the environment as important for developing learners' environmental awareness, personal values, and concern by encouraging personal growth through contact with nature. However, again, Tilbury (1997) acknowledged, while education *in* the environmental developed the moral and ethical

aspects of learning, it did not address the socio-political and economic influences on the environment, and could lead to concerned learners feeling inadequately prepared to address sustainability challenges. Therefore, education *for* the environment aims to develop learners' sense of responsibility and active participation in the resolution of sustainability issues, through engaging learners in social and political education. This aspect takes a socially critical, participatory, and transformative orientation. In conclusion, Tilbury (1997) states education *about*, *for*, and *in* the environment need to be integrated to form a holistic head-hands-heart approach to sustainability, and despite their differing underlying aims and value-orientations, are not only complimentary, but essential aspects of effective environmental education.

Research on a head-hands-heart approach to ESE has resurfaced in recent years. Sipos et al. (2008, p. 74) describe the *head-hands-heart* approach to learning as 'essentially shorthand for engaging cognitive, psychomotor and affective learning domains'. Proponents of the *head-hands-heart* approach argue that current mainstream education places too much focus on the cognitive domain, at the expense of the psychomotor domain and especially the affective domain (Shephard, 2008; Sipos et al., 2008).

Sipos et al. (2008) explored transformative sustainability learning through a series of university level case studies in the USA. The case studies involved community-based service work, experiential learning, participatory decision-making, collaborative group work, and reflection. Sipos et al. (2008) found *head-hands-heart* an effective 'organizing principle' for their teaching approach, which integrated transdisciplinary study (*head*) through e.g. readings, lecture, discussion, critical thinking; practical skill sharing and development (*hands*) e.g. through experiential and service learning; and translation of passion and values into behaviour (*heart*) e.g. through experiencing connection (for example to place) and reflecting upon values.

Murray et al. (2014) developed a 'personalised' approach to ESD at the higher education level that went beyond disciplinary knowledge, and aimed to personally engage learners with the sustainability concept. The approach reflected 'recent thinking on the desirability of blending affective and behavioural aspects of learning (values, attitudes and beliefs) with capacity building (the development of appropriate knowledge and skills)' (p. 721) in order to enable leaners to 'develop personal attributes that can motivate them to embrace change and to act sustainably' (p.719). The training activities involved in the approach provoked learners to reflect on their

values, perspectives and aspirations, with the aim of deepening their 'awareness of the need for, and nature of, personal change and their motivation and sense of empowerment to embrace that change' (Murray et al., 2014, p. 721). Their findings indicated learners engaged in deep thought about, and reflection on, sustainability, and experienced shifts in values awareness that appeared to influence motivation for sustainable behaviours.

Bringing together research from ESE, transformative pedagogies, place-based learning, and indigenous learning, among others, Singleton (2015) developed a head-hands-heart model for transformative learning. Singleton's model shows the holistic nature of transformative experience and relates the cognitive domain (head) to critical reflection, the affective domain (heart) to relational knowing, and the psychomotor domain (hands) to engagement and active use of learned concepts. In relation to the affective or heart aspect, drawing on indigenous perspectives, Singleton (2015) stresses the importance of connection to place as a means of developing learners' sustainability values. Singleton (2015) states 'it is important to provide opportunities for children to have prolonged experience in natural settings and to bond with a place' (para. 4). (Singleton, 2015) argues these experiences not only foster an expanded perception of self and environment, but also allows for pragmatic knowledge of local bioregions.

2.2.4.2 Affective learning, values education, and ESE

In an examination of affective learning in relation to sustainability education in higher education, Shephard (2008) found most teaching and assessment in higher education focused on knowledge and understanding rather than on affective outcomes i.e. values, attitudes and behaviours. However, he also found some areas of higher education had successfully sought affective outcomes (e.g. health science and art) and used particular learning activities to do so (Shephard, 2008). Most activities used experiential learning e.g. discussion, open debate, peer involvement, role playing, problem-based learning, engaging with role models, simulations, games, group analysis of case studies, expert engagement, community service-learning and perspective sharing via reflection (Shephard, 2008). Shephard (2008, p. 95) particularly stressed the 'pivotal role of role models' in teaching affective outcomes.

Lewis et al. (2008) carried out several projects at an Australian primary school aimed at engaging learners in explicit values education. The projects were: planting native reeds at the local lake; creating a community

permaculture garden; and conducting a trial for a turtle nesting site. The projects aimed to address values of 'social and civic responsibility' and 'environmental responsibility' (Lewis et al., 2008, p. 142). The study's findings showed 'students were able to verbalise their environmental knowledge, explain the associated values, express their attitudes toward local environmental issues and outline their behavioural intentions and actions to improve the environment' (Lewis et al., 2008, p. 151). The study found conducting projects, which 'provided learners the opportunity to explicitly engage with values in real-life environmental contexts and actively participate in tasks that made the values being promoted both physical and understandable, rather than vague abstract concepts' was an effective and meaningful approach to teaching ESE values (Lewis et al., 2008, p. 151). Similarly, Tudball (2010), in a study of Australian schools' good practice in values education, found an emphasis on service-learning as a means to develop 'students' responsibility, and respect for others and the environment', and allowed students to put 'values into practice in functional and purposeful ways' (p. 787) (See also Lovat & Clement, 2016).

In summary, previous research findings about a holistic, head-hands-heart approach to ESE suggest it is a useful tool for organising ESE in a way that integrates the cognitive, psychomotor, and affective learning domain. Several approaches to affective learning or values education in relation to ESE have been found to be effective. Common methods used include outdoor learning, experiences in nature, service-learning, reflection on values, connection to place/place-based learning, and real-life learning environmental projects.

2.2.5 The human-nature relationship

A central theme running through the values aspect of ESE is the need to address the human-nature relationship. Indeed, the human-nature relationship lies at the centre of sustainability and ESE. Research by Lewis et al. (2008, p. 140) found there are many takes on the components of environmental values, though most include the sense of 'living harmoniously within ecological systems' and 'promoting a sense of continuity and community with other people and all living things'. Both Tilbury (1995) and Fien (1993/1995) called for values education in ecological values, and in relation to what Fien referred to as 'people-nature relationships for ecological sustainability' (p. 59).

Previous research contends that our un-sustainability is rooted in the fundamental features of our society and how we think about ourselves and

the world, specifically how humans interrelate and relate to nature (Bonnett, 2002, 2004, 2007; Ehrenfeld, 2005; Ehrenfeld & Hoffman, 2013; Hopwood et al., 2005; Orr, 2004; Sterling 2001). Sterling (2001, p. 23) comments that 'arguably, the root of the "world problematique" lies in a crisis of perception; of the way we see the world' (see also Orr, 2004). The dominant mechanistic and instrumentalist worldview, which divides the world into humans/nature, local/global, present/future, cause/effect and categorises issues as either 'environmental', 'social', or 'economic' 'belies the essentially unbroken nature of reality' (Sterling 2001, p. 16; see also Warren 1990/2001). Ehrenfeld (2005) argues that the causes of our 'unsustainability' stem from values and beliefs based on a mechanistic view of the world that fails to acknowledge that 'we are clearly part of an interconnected and interdependent system' (p. 24). Sterling (2001) explains that there needs to be a shift from a dualistic, reductive, mechanistic worldview to an ecological worldview that 'emphasises relationship' (p. 16), and is 'integrative, holistic, systemic, and connective' (p. 23). Bonnett states within humankind there is a sense of mastery over nature and the false assumption 'that we can somehow "manage" nature on an increasingly grand scale' (2007, p. 711; see also Orr, 2004).

This aligns with ecofeminist theory that likens the 'mastery' approach to the environment to the suppression of women and other minorities and advocates relationship, connection, and interdependence. Ecofeminism affirms that humans, while individuals, are also situated within an ecological whole, and are members of an ecological community (Kretz, 2009; Plumwood 1991; Warren 1990/2001).

It has been argued that the majority of ESD approaches fail to adequately address the key issue of the human-nature relationship, of humanity's place in the world in relation to nature, or to tackle questions regarding human flourishing as situated within the larger ecological system (see Bonnett, 2007, pp. 707–709). Linked to these criticisms are arguments that ESD has failed to sufficiently challenge the reductionist worldview and instrumental view of nature advocated by the prevailing neoliberal capitalist agenda (Huckle & Wals, 2015; Kretz, 2014; Sterling, 2001).

At present the sustainable development discourse, and subsequent policy, is dominated by the status quo view and in many cases has been used to justify 'business as usual' (Hopwood et al., 2005; see also Ehrenfeld,

2005). Bonnett (2007) argues that 'Brundtland-type'[2] sustainable development approaches 'reflect highly anthropocentric and economic motives that lead to nature being seen as essentially a resource, an object to be . . . exploited' (p. 710). Hopwood et al. (2005) conclude that the status quo approach is inadequate to address sustainable development, as it facilitates 'trade-offs' between environmental and social issues, and thus perpetuates a flawed 'conceptual divide between the environment and humanity' (p. 31) that fails to acknowledge 'that humanity is dependent on the environment, with society existing within, and dependent on, the environment and the economy exists within society' (p. 29).

Ehrenfeld and Hoffman (2013, p. 4) state 'sustainability takes a movement to re-examine who we are, why we are here, and how we are connected to everything around us . . . any change that is short of that scale will not solve the problems we face'. In short, sustainability requires a transformational approach, involving a fundamental change in how humans relate to each other and to the environment (Hopwood et al., 2005).

Sobel (1996, 2017) wrote of the importance of fostering nature connection early in childhood before addressing issues such as deforestation or climate change: 'If we want children to flourish, to become truly empowered, then let us allow them to love the earth before we ask them to save it' (1996, p. 39). Carson (1965/1998) similarly urged adults to nurture the childhood sense of fascination and wonder for nature, arguing the development of 'feelings' in children is in fact more important than teaching facts. The importance of providing learners opportunities to engage with nature links to psychology research on nature connection e.g. by Lumber et al. (2017) who found that experiences engaging with nature, and the extending of self outwards to foster compassion for nature, led to an emotional connection to nature, a revering of nature, and ethical concern and judgements.

[2] The 'Brundtland Commission' (formally known as the WCED (World Commission on Environment and Development), chaired by Gro Harlem Brundtland, produced the *Our Common Future* report which contains the often cited 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' (WCED, 1987, chap. 2).

2.2.6 Character education

As noted in Section 1.1, one approach to interdisciplinary research involves identifying an important connection between two previously unconnected disciplines or areas of enquiry (Lyall et al., 2011, p. 9), which in some cases involves recognising a 'hitherto "silent" discipline' that might offer insights into the issue that can be integrated with existing disciplinary insights or theories (Repko and Szostak, 2017, p. 94). Character education (CE) was identified as such a discipline.

Coinciding with the expansion of ESE during the DESD, there has been a worldwide resurgence of interest in CE (Arthur et al., 2017; Kristjánsson, 2013). The contemporary educational field is increasingly coming to recognise that in order to create flourishing individuals and societies, education cannot be based on purely academic aims; instead what is needed is a more holistic education that also addresses the moral character of the students (Arthur et al., 2017; Carr & Harrison, 2015). Character education comes in a variety of approaches, yet all seek to support the social, emotional and ethical development of students, and foster the development of positive character traits in learners, usually referred to as *virtues* (Arthur et al., 2017; Berkowitz, 2011, 2017). This is consistent with Krathwohl et al.'s (1964/1973) research on the affective learning domain described in section 2.1.4, where the top level of the affective learning hierarchy, *characterising*, is when the individual is characterised by the values they have internalised (Belton, 2016).

Approaches to CE can be roughly divided into direct/explicit or indirect/implicit, also referred to as *taught* or *caught* CE (Arthur et al., 2017; Lapsley & Narvaez, 2007). Explicit CE is openly part of the curriculum, and generally involves direct instruction and transmission of moral content. Examples of explicit methods are: taught courses addressing virtue knowledge, reasoning and practice, through curriculum subjects, discussion, use of stories, extra-curricular activities, the formation and discussion of classroom rules, peer mediation, philosophy for children, and circle time (Arthur et al. 2017; Halstead & Taylor, 2000).

Implicit CE instead places emphasis on school culture, ethos, and role-modelling (Arthur et al. 2017); and the pupil's active construction of moral meaning through participation in democratic practices, social interaction and moral discussion (Lapsley & Narvaez, 2007). Examples of implicit methods i.e. education through the life of the school are: pastoral care, school ethos, school policy statements, teacher example/role-modelling,

school councils, and service/community learning (Arthur et al. 2017; Halstead & Taylor, 2000).

Despite the recent advances in both the CE and ESE fields, thus far they have run parallel to each other without any substantial convergence. However, the recent visibility of the urgency of the sustainability crisis (e.g. the IPCC's sixth assessment report on climate change, coupled with increased instances of extreme weather events) has prompted more within the CE field to address sustainability issues. The international Association of Moral Education's annual conference theme in 2020 was 'Morality, Environmental Sustainability, and Education' and asked 'What moral foundations and value-orientations best support environmental education? How can moral and environmental education inform each other with regard to best practices?' (AME, 2020). These are the questions that drive this doctoral research.

There have also been notable exceptions of ESE-CE crossover. Berkowitz (2017) wrote of 'the centrality of CE for creating and sustaining a just world' (p. 83) and argued 'a more sustainable, just, and compassionate world will only happen if there are more people able and motivated to steer the world in that direction. This is precisely the definition of character: "characteristics that motivate and enable one to act as a competent moral agent"' (p. 93). He went on to stress the importance of knowing and implementing research-supported strategies, listing six principles that have been found to guide effective CE:

> Prioritizing character education as a central purpose of the school; being strategic and intentional about nurturing healthy relationships among all stake-holders; using practices that lead to the internalization of values and intrinsic motivation to do good in the world; modelling the character we want to see in students; sharing power through a pedagogy of empowerment; and strategically creating the conditions that lead to positive development, especially over the long term' (Berkowitz, 2017, p. 93).

A sub-field of virtue ethics (one theoretical base for CE) that is particularly relevant to ESE is that of environmental virtue ethics (EVE). Around the turn of the millennium, EVE emerged as a means of addressing environmental issues through the cultivation of virtues (character traits) relating to the environment. As outlined by Hursthouse (2007, p. 155), EVE proposes the application of traditional virtues such as compassion,

temperance, benevolence, etc., to the 'new field of our relations with nature' (see also Ferkany, 2021; Sandler, 2006). The fostering of various virtues has been proposed as crucial to sustainability; virtues that 'global citizens will likely need in confronting sustainability problems' (Ferkany, 2021) e.g. justice (Curren & Metzger, 2017; Ferkany, 2021; Sandler, 2006); temperance (Sandler, 2006; Treanor, 2014); frugality (Ferkany, 2021; Sandler, 2006); cooperativeness (Ferkany, 2021; Sandler, 2006). Additionally, new virtues dealing explicitly with our relationship with nature have been suggested, e.g. 'attentiveness', 'respect for' and 'care of' nature (York and Becker, 2012); reverence for nature, wonder for nature (Sandler, 2006). Hursthouse (2007) proposed the virtue of 'being rightly oriented to nature', and described how teaching a child to understand, appreciate, care for, and feel wonder for nature begins to shape a particular mindset relating to the natural world. This connects to the works of Sobel (1996, 2017) and Carson (1965/1998, see also Washington, 2018) mentioned in Section 2.1.7 above, as well as research within ESE that asserts the need for a mindset change e.g. Bonnett (2002) on 'sustainability as a frame of mind' and Sterling (2001, 2014) on ecological thinking.

Various CE practices in relation to ESE have been proposed: cross-curricular, collaborative, civic, and project-based learning, the fostering of a sense of global citizenship, ethical reflection, cooperative ethical inquiry, and discussion of case studies (Curren & Metzger, 2017); modelling of sustainability virtues by schools and teachers, communities of virtue with a school leadership and overall culture that demonstrates the virtues (Ferkany, 2021), a focus not solely on individual attainment, but on the 'deep exploration and articulation of issues pertaining to sustainability' (Curren & Metzger, 2017, p. 178) and asking learners 'to think creatively about how to live flourishing lives in ways consistent with sustainability?' (Curren & Metzger, 2017, p. 68). However, there has been little empirical research in terms of ESE-CE practice.

Despite the above exceptions, as is often the case, disciplinary boundaries continue to separate the fields, meaning that valuable insights that could be of mutual benefit remain confined to their respective fields, and more importantly a more comprehensive, integrated understanding of the values aspect of ESE (and indeed the environmental and sustainability aspect of CE) is not achieved. This thesis aims to address this division.

2.3 Contribution

The rationale for this study emanates from my desire to aid educators in their teaching of the values aspect of ESE. The interdisciplinary knowledge generated from this study provides new insights into, and a more comprehensive, integrated understanding of the values aspect of ESE, as well as sheds light on the feasibility of the integration of insights and practice from the CE and ESE fields, thereby adding to the ESE discourse and having potential practical application in ESE practice.

Integration, as part of interdisciplinary research, aims towards a fuller understanding; changed concepts, theories and methods; as well as encouraging new questions (Repko & Szostak, 2017). By critically examining a range of possibilities for integration of ESE and CE; by revealing commonalities, by indicating where differences could be bridged and tensions addressed; and by indicating new avenues for research, this PhD research contributes to our understanding of teaching the values aspect of ESE, and conversely the environmental and sustainability aspect of CE (Repko & Szostak, 2017).

The findings also have a bearing on the way ESE researchers and practitioners view values education by challenging the view that it conflicts with critical thinking or an ESD 2/emancipatory approach to ESE, and instead support the view that these are different yet crucial aspects of learning that need to be held in *balance*.

2.4 The research questions

The main research question is: *What insights might the field of character education (CE) offer into the problem of teaching the values aspect of environmental and sustainability education (ESE)?*

To answer it, the following sub-questions have been examined in the three different studies:

1. What insights might virtue ethics theory offer into the problem of teaching the values aspect of (E)SE?

2.1. How does a holistic education oriented, all-ages school in Scotland carry out ESE?

2.2. What, if any, common ground (intersection) exists between the school's ESE approach and CE theory and practice?

2.3. What can we learn about ESE and CE integration from these findings?

3. How do CE and (E)SE experts perceive the feasibility of integrating insights and/or practice from the (environmental and) sustainability education and character education fields?

3 Research design

In this chapter, the research design is described and discussed. It begins with an introduction to the research approach and the rationale for a pragmatic research approach. This is followed by an account of the methods used, including the participants, settings, data gathering, and data analysis in each of the three studies. The chapter ends with a reflection on the ethical issues and trustworthiness of the research.

3.1 Introduction to the research approach

This research consists of three studies intended to conceptually and empirically investigate what insights CE might offer into teaching the values aspect of ESE. Each study focussed on a different angle: theory, practice, and feasibility, in order to gain a broad view of the issue.

To accomplish this, several methods were applied. In Study 1, a collaborative, philosophical (theoretical) inquiry was made into a virtue ethics approach to sustainability. In Study 2, a case study was carried out at a holistic education oriented, all-ages school in Scotland to explore how they carry out ESE, and whether there is any evidence of ESE-CE integration. In Study 3, a Delphi study was carried out to assess ESE and CE experts' views on the feasibility of integrating ESE and CE theory and practice.

The research as a whole was guided by the Interdisciplinary Research Process (IRP), and took a pragmatic approach, as this was considered most suitable for interdisciplinary research.

3.2 Rationale for a pragmatic research approach

This research is grounded in the philosophy of pragmatism, which Bernstein (2010, p. 46) describes as an 'alternative way of understanding inquiry and knowledge'. The main reason for the choice of pragmatism as the guiding paradigm for this research was the interdisciplinary nature of both the research problem and the research methodology, and thereby the need to integrate insights from different disciplinary fields and knowledge traditions. Additionally, the research addresses a practical problem and focuses on the practical application of the research outcomes—which match the central aims of a pragmatic approach. Below is an outline of

pragmatism and its application within educational research, with particular reference to its links with the field of interdisciplinarity.

3.2.1.1 Pragmatism

Pragmatism developed from the work of Charles Peirce, William James, George Mead and John Dewey, though it has more recently been popularised through the neo-pragmatism of Richard Rorty (Haack, 2006). Although there are many forms of pragmatism, all are critical of 'the traditional philosophical quest for absolute certainty' (Bernstein, 2010, p. 13). Dewey criticizes the epistemological tradition that considers the only knowledge worth having is certain knowledge, which had erroneously led to 'the glorification of the invariant, the certain, the intellectual, and a denigration of the changeable, the merely probable, the practical' (Haack, 2006, p. 35). Similarly, Bernstein (2010, p. 30) is critical of the mentality 'that is drawn to rigid absolutes, a mentality that discourages dialogue, discussion, debate.'

Dewey sought to replace the traditional search for absolute certainties with 'a more flexible, more adaptable application of intelligence' (Haack, 2006, p. 39) maintaining that knowledge can only be understood in relation to time and place, and even if we manage to know everything at a given time, time moves on and new conditions arise that pose new problems, therefore inquiry should be understood as a '*serial* or *sequential* process' (Biesta & Burbules, 2003, p. 57).

Peirce saw pragmatism as participating in 'the scientific tradition of cooperative knowledge, where all available insights confront and reflect upon each other toward the attainment of indisputability' (Welch, 2011, p. 25). Pragmatism 'offers an approach grounded in the emerging conversation that supports a diversity of viewpoints about the phenomena' (Kalolo, 2015, p. 160).

3.2.1.2 Pragmatism and educational research

Pragmatism in educational research represents:

> a shift from a closed positivistic system of research towards a more open and pluralistic approach of inquiry; shifting from dogmatic approaches towards those that can lead to a critical conversation and consensus; shifting towards approaches that welcome multiple views on the complexities in education. (Brew, 2010, as cited in Kalolo, 2015, p. 153)

Additionally, pragmatism stresses the significance and practical application of educational research (Biesta & Burbules 2003; Bloomberg & Volpe, 2016) and there is a concern with finding solutions for existing problems and issues (Kalolo, 2015). The problem is primary, and the appropriate research approach is considered the one that best fits with the research problem (Bloomberg & Volpe, 2016). Kalolo (2015, p. 161) believes that 'the utility of the education research outcomes should be the first criterion for judging whether a certain methodological perspective is effective or not'. In other words the research problem and the usefulness of the knowledge produced by the research should determine the methodological perspective employed in the research.

Additionally, pragmatism supports the 'use of multiple tools of inquiry to gain different perspectives on the problems at hand' (Biesta & Burbules, 2003, p. 108) and can 'integrate different research methodologies' in order to 'yield better research outcomes' and 'enrich the research data produced' (Kalolo, 2015, p. 150).

3.2.1.3 Pragmatism and interdisciplinarity

Welch (2011, p. 26) writes that 'Peirce's communal approach to epistemology set the stage for interdisciplinarity by valuing exchange of ideas among diverse specialists' and approaching knowledge as:

> [A]n ongoing process of collaboration and debate toward a more holistic understanding of complex problems and the sorting out of solutions to them. This dynamic, synthetic, and progressive epistemological strategy is well in line with the aspirations of interdisciplinary theory, utilizing meta-cognitive reflection as a means of offsetting epistemological fixation through the productive employment of doubt. (p. 26)

Welch (2011, p. 4) argues that pragmatism forms 'a philosophical context for the emergence of the interdisciplinary idea'. Repko et al. (2017, p. 78) describe interdisciplinarity as a pragmatic approach that 'focuses on research, borrowing (from disciplines), and practical problem solving in response to the external demands of society'. Interdisciplinarians 'seek to create commonalities between conflicting disciplinary insights, integrate these, and construct more comprehensive understandings of complex problems' (ibid).

> Interdisciplinarity studies a complex problem . . . by drawing on disciplinary insights (and sometimes stakeholder views) and integrating them. By employing a research process that subsumes the methods of the relevant disciplines, interdisciplinarity work does not privilege any particular disciplinary method or theory. (Repko & Szostak, 2017, p. 26)

Given that interdisciplinarity forms the basis of this research's methodology (the integration of disciplinary theory and practice), provides a guiding theory for the research, and frames the research questions, pragmatism with its interdisciplinary nature is the logical choice as a research paradigm.

3.3 Participants, settings, and data gathering in each of the three studies

3.3.1 Philosophical inquiry (Study 1)

Study 1 entailed a collaborative, philosophical (theoretical) inquiry, guided by the Interdisciplinary Research Process (IRP). The inquiry was an interdisciplinary collaboration between myself, coming from the ESE field, and Kristján Kristjánsson, a character educationist, exploring how virtue ethics can address sustainability.

Study 1 can be seen to coincide with several steps in the IRP, in particular Step 4: Conduct the literature search; Step 5: Develop adequacy in each relevant discipline; Step 6: Analyse the problem and evaluate each insight or theory; and Step 8: Create common ground between insights.

The inquiry involved critically analysing the literature, theory, and concepts from the ESE and CE fields; critiquing current approaches in environmental virtue ethics, integrating insights from both fields; the theoretical construction of a new virtue; and extending the concept of (human) flourishing to include the environment.

3.3.2 Case study (Study 2)

An instrumental case study seeks to explore a particular issue or research question, and the case is chosen specifically to gain insight into and understanding of that issue/question (Simons, 2009; see also Mills, et al., 2010). Study 2 was an instrumental case study carried out at an independent, all-ages, holistic-oriented school in Scotland, exploring how ESE and CE might intersect in practice, and related theory, through

examining the school's approach to ESE and analysing if and how it relates to CE theory and practice. The single, unique case was purposefully sampled as an example of an all-ages school that was perceived to take a holistic approach to ESE that included the values education aspect of ESE, or affective learning.

A critical case sampling strategy was used in order to select an information-rich case in terms of providing insight into a holistic approach to ESE, and potentially insights into the integration of CE and ESE (Bloomberg & Volpe, 2016). The school was selected based on initial document analysis relating to school practices, approach, and its guiding educational philosophy: The school offers a curriculum 'inspired by the work of Rudolf Steiner and designed for the 21st Century' (School website, 2016), while also drawing on democratic schools, peace schools, and forest schools, and emphasises craft-based education and outdoor education. The school was also selected as, unusually for a Steiner school, it has a pupil age range of K-18 (ages 3-18) and would therefore provide data across the entire compulsory school age range. In accordance with Steiner's philosophy, children of different ages require different approaches e.g. with younger children the emphasis is on imitation, with older children the emphasis is on fostering judgement, intellect and practical idealism (Hether, 2001). Therefore, a Steiner school case study will provide data specific to, and an opportunity to critically explore, different approaches.

The school is a fee-paying, independent, all-ages school in Scotland, with 181 pupils, aged 3-18 at the time of study (October 2016). The seven teachers interviewed were aged between 25 and 65, two males, five females. All but two teachers were qualified Steiner-Waldorf educators, though the two who were not were participating in continuing professional development in that regard.

Teachers were chosen as the interviewees, since the research intended to focus on the teaching approach and teaching philosophy, the methods of integration, and the thinking behind them.

Multiple methods of data collection were used with the intention to view the phenomenon from different angles, thereby providing corroborative evidence of the data obtained and facilitating a more in-depth understanding (Bloomberg & Volpe, 2016; Simons, 2009). On-site data collection occurred across a four-day period in October 2016. Field notes were taken throughout.

'Case study is a study of the singular, the particular, the unique' (Simons, 2009, p. 3). It is a research approach that seeks to understand the

distinctiveness of the individual case, through an in-depth study interpreted in a specific socio/cultural/political setting (ibid). The purpose of the case study is not to generalise findings beyond the case, but rather to gather an in-depth understanding of the specific case, through which other cases may have the potential to learn from, by shedding light on their own case, or indeed providing inspiration for innovation.

3.3.2.1 Interviews

Semi-structured interviews were used to gather data from the perspective of seven teachers (including the principal and vice principle) on their practice and the school approach regarding ESE. Interviews began by reiterating what the research was about, then asking: *How do you carryout, and how do you perceive the school carries out, environmental and sustainability education?* Interviews then generally followed the responses of the interviewee, allowing them to talk freely about how they, and the school, address the environment or sustainability. However, sometimes specific questions were asked in terms of seeking more detail or depth, which would also keep the discussion flowing e.g. *I'm getting an impression you go about it [ESE] in a very experiential way?* I also asked certain teachers to explain about a particular class I knew they taught, or outdoor activities I knew they were involved in. However, I mostly allowed the interview to flow in a relaxed conversational manner, with the interviewee taking the lead. In this way, the data predominantly reflected the teachers' own perceptions of the ESE being practiced at the school.

The interviews were responsive to the teachers and the situation e.g. one interview resulted in an impromptu tour of the school grounds to see and discuss the projects from the outdoor school week, while another interview took place during an outdoor hiking trip and included discussion on the role of outdoor education in ESE.

Interviews were recorded for transcription when possible, otherwise notes were taken and written up immediately afterwards (e.g. some interviews were taken outside). The interview method was chosen as a means of obtaining detailed descriptions of the teachers' practice, experiences and meaning making in their own words (Bloomberg & Volpe, 2016).

Simons (2009) lists the four main purposes of in depth interviews as:

1. To document the interviewee's perspective on the topics
2. The active engagement and learning it can promote for the interviewer and interviewee in identifying and analysing issues

3. The inherent flexibility it offers to change direction to pursue emergent issues, to probe a topic, or deepen a response, and to engage in dialogue with participants
4. The potential for uncovering and representing unobserved feeling and events that cannot be observed

Yin (2014, p. 112) cautions interviewers to be aware of potentially influencing the interviewee, sometimes referred to as 'reflexivity', where the interviewer's perspective unintentionally influences the interviewee's responses. This was something that I aimed to be sensitive to, and I was careful to phrase questions in an open, unbiased manner. Additionally, I was also careful to remain aware of the potential 'bias, poor recall and poor or inaccurate articulation' of interviewees (Yin, 2014, p. 113), and therefore I sought to corroborate interview data with other data sources whenever possible.

3.3.2.2 Observations

Observations were carried out during school classes, outdoor activities and excursions, as well as general observations of the school environment and grounds in order to gain insight into the lived experience of the school community. Although the ESE provision and related issues were the main focus of the observations, the observations were kept open to possibility: 'to balance foreshadowed issues with staying open to the unexpected' (Simons, 2009, p. 57). Observations were recorded through note taking, generally in real-time, or immediately afterwards if necessary e.g. following an outdoor walk. The Observations were used to provide a rich description as well as to explore the norms and values of the school culture (Simons, 2009). Additionally, observations provided a crosscheck on the data obtained in interviews, i.e. triangulation.

Yin (2004, p. 114) notes that observational evidence adds a new dimensions for understanding either the context or the phenomenon being studied. Simons (2009, p. 62) considers observation as 'a powerful tool for understanding and eliciting the nuances of incidents and relationships in the 'lived experience' of people in particular situation and contexts'. Simons (2009, p. 55) further notes that observation is employed as a companion to interviews in case study research as:

- You can gain a comprehensive 'picture' of the site, a 'sense of setting' which cannot be obtained solely by speaking to people.
- Documenting observed incidents and events provides 'rich description' and a basis for further analysis and interpretation.

- You can discover the norms and values which are part of an institution's or programme's culture or subculture
- Observations provide a cross-check on data obtained in interviews.

Yin (2014, p. 117) cautions against becoming a 'supporter of the group or organization being studied', resulting in biased evidence. Although this is more likely with participant-observation and longer-term case studies, it was something I monitored and reflected on during data analysis.

3.3.2.3 Document analysis

Analysis was carried out on documents pertaining to the curriculum, practices, general approach, calendar activities, and guiding philosophy of the school (available via the school website); curriculum materials, especially Avison & Rawson's 2014 *The tasks and content of the Steiner-Waldorf curriculum* used extensively by the school; as well as official school inspection reports (Education Scotland, 2014), and newspaper review /feature articles (available online). These documents were used to both 'corroborate and augment evidence from other sources' (Yin, 2014, p. 107) and to add depth to the case by depicting and enriching the context and contributing to the analysis of issues (Simons, 2009).

Document analysis was particularly useful in this case as much of the practice, curriculum, approach and philosophy of the school stems from Steiner educational philosophy and from the other educational philosophies the school draws upon e.g. democratic schools, forest schools, craft schools: 'written documents may be searched for clues to understanding the culture of organizations, [and] the values underlying policies' (Simons, 2009, p. 63).

However, documents must be recognised as being written for specific purposes and audiences (Yin, 2014, p. 108), and it was important to remain aware of potential bias, and be critical when interpreting such evidence.

3.3.2.4 Field notes

Field notes were taken throughout the study. While on-site, general thoughts and ideas relating to collected data and to on-going observations were jotted down in note form. More formal field notes were also made at the end of each data collection day, summing up each day's data as well as noting any apparent early emerging patterns, connections and themes, thereby providing a starting point for early analysis and interpretation (Simons, 2009; Yin, 2014).

3.3.3 Delphi study (Study 3)

The Delphi technique can be seen as a structured group communication process that focuses on a problem (Linstone and Turoff, 1975, as cited in Okoli and Pawlowski, 2004). Since sufficient knowledge concerning the problem is required, a panel of experts is gathered. The Delphi study can be likened to a virtual meeting of a panel of experts gathered to arrive at a group answer to a problem (Okoli and Pawlowski, 2004). The study was carried out via email.

Twelve participants ('experts') were purposefully sampled using criterion sampling, stratified purposeful sampling, and snowball/network/chain sampling (Bloomberg and Volpe, 2018). The objective was to select a mix of educationists from both the CE and (E)SE fields. The experts were selected via a 'Knowledge research nomination worksheet' (Okoli and Pawlowski, 2004, see Table 2) in order to make the sampling process as transparent, non-biased, and systematic as possible. Seven (E)SE experts (five 'academics', two 'practitioners'; three males and four females), and five CE experts (three 'academics', two 'practitioners'; three males and two females) from across seven countries, four continents, took part in the study. In terms of specialisation and approach in both (E)SE and CE, it was attempted to gather a broad range of approaches to both (E)SE and CE. (E)SE experts' focus varied from the emotional and values aspects of (E)SE, childhood education and learning, outdoor education, participation and (E)SE competencies, and (E)SE teacher training. CE experts' focus varied from moral development, social science education, cognitive psychology, and civic education. However, in regards to the CE experts, it should be acknowledged that there turned out to be a leaning towards, although not a restriction to, a neo-Aristotelian virtue ethics based approach to CE, therefore the findings should be viewed with this in mind.

Table 2

The Knowledge Research Nomination Worksheet

Step 1: Prepare KRNW	• Identify relevant disciplines or skills: academics, practitioners, NGO officials. • Identify relevant organizations • Identify relevant academic and practitioner literature
Step 2: Populate KRNW with names	• Names of individuals in relevant disciplines or skills • Names of individuals in relevant organizations • Names of individuals from academic and practitioner literature
Step 3: Nominate additional experts	• Contact experts listed in KRNW • Ask contacts to nominate other experts
Step 4: Rank experts	• Create sub-lists, one for each discipline/skill • Categorise experts according to appropriate list • Rank experts within each sub-list based on their qualifications
Step 5: Invite experts	• Invite experts from each sub-list in the order of their ranking within their sub-list • Stop soliciting experts when each panel size is reached. [Target size is 10-18]

Note. Adapted from "The Delphi method as a research tool: an example, design considerations and applications," by C. Okoli, and S. D. Pawlowski, 2004, *Information & management, 42*(1), p. 21.

The Delphi involved the experts answering questions in three rounds (See Figure 2). Round 1 of the study sought to gather the initial ideas and perspectives that would then be developed and evaluated in the subsequent rounds—it consisted of five open-ended questions:

A. How desirable/worthwhile do you think the integration of insights and/or practice from the CE and SE fields is?
B. What possibilities or options, if any, do you think exist for the integration of insights and/or practice from the CE and SE fields?
C. What factors do you think might (or currently do) impede the integration of insights and/or practice from the CE and SE fields?
D. What factors do you think might facilitate the integration of insights and/ or practice from the CE and SE fields?
E. How practical/viable do you think the integration of insights and/or practice from the CE and SE fields is?

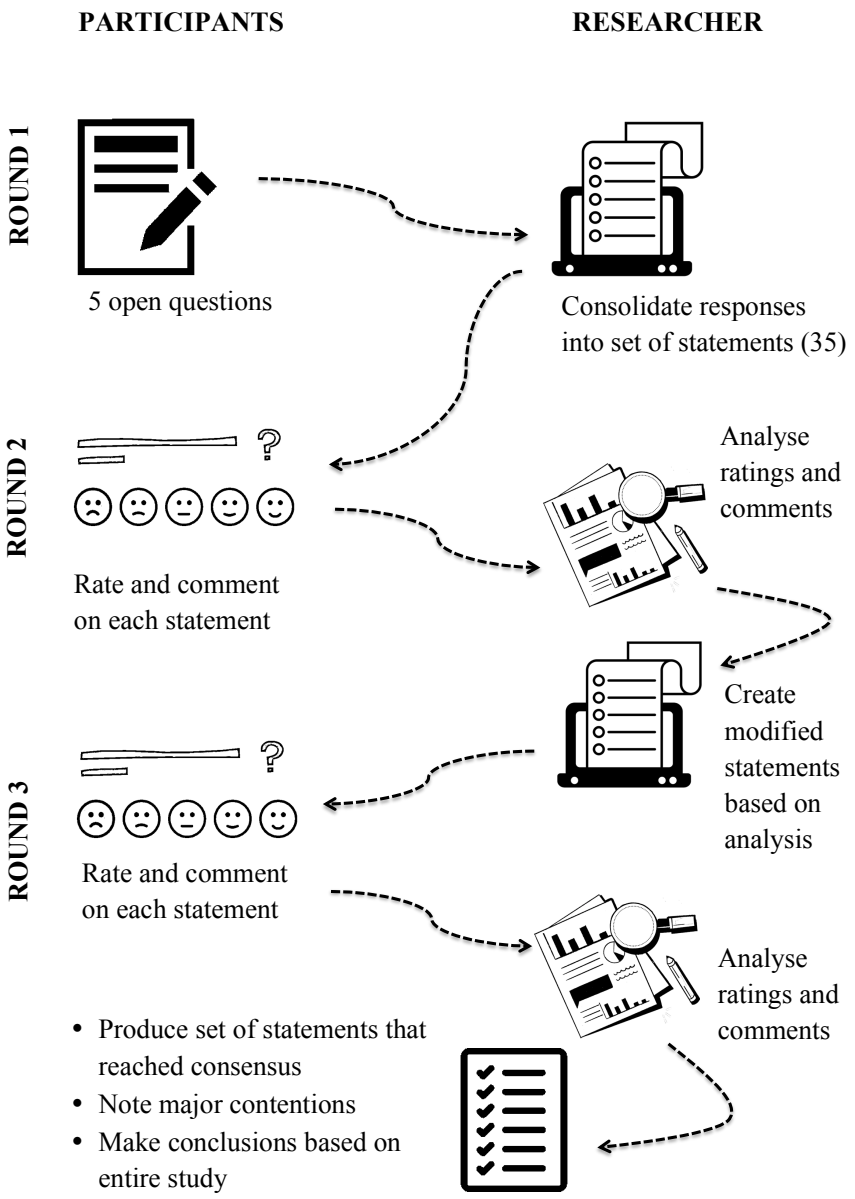
Responses from Round 1 were anonymised and consolidated into a set of statements by the researcher, which were then sent to the experts in Round 2. Round 2 involved experts' evaluation of the statements in terms of agreement and importance via 5-point Likert items, and an opportunity for experts to add comments and revise their views (Okoli and Pawlowski, 2004). Comments and evaluations from Round 2 were used to modify the statements. The modified set of statements, along with the Round 2 comments and descriptive statistics on the evaluations were then sent to experts in Round 3. Statements that reached consensus in Round 2 (all experts either Agreed or Strongly agreed) were excluded from Round 3. In Round 3, participants again commented upon and evaluated each statement.

Finally, the comments and evaluations from Round 3 were analysed, and a final set of agreed upon statements was compiled by the researcher. Data synthesis and interpretation (of ideas, concepts, and themes) is on-going throughout a Delphi study. Descriptive statistics (median, mode, frequency data, response/point percentages, and interquartile range) of the Likert item evaluation responses given in Rounds 2 and 3 were calculated and tabulated in order to aid in the judgement of consensus in terms of agreement and importance, as well as provide insight into the on-going discussion taking place within the Delphi.

While many Delphi studies aim for consensus, others, including this study, aim to allow differences to be brought to, and remain at, the surface. Developing clarity in terms of differences/contention is held as important as developing clarity in terms of consensus (Baumfield et al., 2012; Okoli and Pawlowski, 2004).

Figure 2

Delphi method used in study.



3.4 Data analysis

Thematic analysis, according to Braun and Clarke (2006) was used to analyse the data in Studies 2 & 3. Braun and Clarke's (2006) process has six phases: Familiarisation (with the data); Coding; Theme development; Reviewing Themes, Defining Themes; and Producing the report.

3.4.1 Case study (Study 2)

Thematic analysis, according to Braun and Clarke (2006), was used to explore patterns within the entire data set (interviews, observations, documents, and field notes). The analysis was guided by the research question: *How does a holistic education oriented all-ages school in Scotland carry out ESE?* and the coding was informed by theories in ESE, education *in*, *about*, and *for* the environment and sustainability e.g. citizenship, place-based learning, interdisciplinary learning, outdoor-learning, school-climate. However, I remained open to a different story than anticipated e.g. that the school didn't teach holistic ESE, and therefore the analysis combines elements of both inductive and deductive coding. Data were actively and repeatedly read, and initial coding and themes reviewed. Codes and themes are both semantic (descriptive) and latent (interpretive) (Braun & Clarke, 2006; Braun et al., 2014; Terry et al., 2017). As part of the theme development process following coding, a concept map was generated and refined to act as a tool to visually organise initial themes, sub-themes, and their links to each other (Simons, 2009).

This case study takes a broadly contextualist orientation to the data, acknowledging research participants' (and researchers') interpretations of reality are produced and exist within broader socio-cultural contexts (Terry et al., 2017), meaning, participants' responses are taken at face value, but are viewed within the socio, cultural, and political context within which they exist. Interviewees' responses were viewed within the specific context of the school and educational setting, as well as the local and Scottish background. I particularly acknowledge that as a non-Steiner-Waldorf educator, I will interpret data as an outsider.

Triangulation of the data drawn from interviews, observations, and document analysis aimed to facilitate a more credible picture of the case. All sources of evidence were reviewed and analysed together so that the findings are based on the convergence of information from the different sources (Yin, 2014). Document analysis in particular aided in the understanding of the 'the reasons and context for the policy as well as how it is being implemented in practice' as well as gave insight into the culture

and values of the organisation that lie beneath policies (Simons 2009, p. 63).

Following the above analysis, the findings were then re-analysed from a CE perspective. The first stage of the analysis was based on the research question: *What, if any, common ground (intersection) exists between the school's ESE approach and CE theory and practice?* The themes and sub-themes were positioned in relation to both ESE and CE theory and practice, and thus their point of intersection generated. This analysis was aided by the visual representation of the data in a Venn diagram. In the second stage, the points of intersection were brought into conversation with the CE literatures, and was guided by the final research question: *What can we learn about ESE-CE integration from these findings?*

3.4.2 Delphi study (Study 3)

Data synthesis and interpretation is on-going through a Delphi study, as can be seen by the data collection description above. As previously described, participant statements gathered in Round 1 were consolidated by the researcher to form key points or statements (items), and then following Round 2 those statements/items were reworded or modified according to participants' evaluative comments.

Although the data was interpreted by me to some extent, there was an emphasis on transmitting the original data 'as is' in terms of the statements and ideas of the Delphi study participants. It is their opinion that is being sought after all. Okoli and Pawlowski, (2004, p. 20) state that Delphi studies can provide richer data than other methods, due to the multiple iterations and participant revisions due to fellow participants evaluations and comments. They go on to say that 'asking respondents to justify their responses can be [a] valuable aid to understanding the causal relationships between factors, an understanding that is necessary to build theory' (Okoli & Pawlowski, 2004, p. 30).

Thematic analysis, according to Braun and Clarke (2006), was used to explore patterns in the entire data set. It was considered important to go beyond the statements and try to draw out the key talking points throughout the entire Delphi. Thematic analysis was carried out on the statements, but also the comments given, as it was felt that the 'conversation' and particularly the 'Yes, but . . .' comments were crucial to understanding and accurately portraying the viewpoints expressed. Each theme, therefore, is composed of codes relating to both statements and comments, both agreements and disagreements.

Data were actively and repeatedly read, and initial coding and themes reviewed multiple times. The analysis was guided primarily by the research question and the coding sought to be inductive and led by the data. Codes and themes are both semantic (descriptive) and latent (interpretive) (Braun and Clarke, 2006; Braun et al., 2014; Terry et al., 2017).

3.5 Ethical issues

The main ethical implications of the research regard the participants in the case study and Delphi study. The following safeguards were employed to ensure the protection and rights of participants (Bloomberg & Volpe, 2016): informed consent, anonymity, ability to withdraw, and the opportunity to make comments on findings. Participants in both studies were informed according to these rights and protections before commencement of the research.

3.6 Issues of trustworthiness

This section will address issues of credibility (or internal validity), dependability (reliability), confirmability (objectivity) and transferability (external validity) (Bloomberg & Volpe, 2016, p. 176).

Generally, throughout each of the studies, I frequently checked for bias, and reviewed findings and interpretations with professional colleagues, as well as kept careful documentation of decisions and analysis during the research.

The case study is an instrumental case study, and the school was chosen to explore the issue of teaching the values aspect of ESE, and therefore the data is viewed within this context. A CE theoretical lens was applied to the study and the findings interrogated in terms of existing CE theory and practice (Simons, 2009). It is important to acknowledge that the nature of an instrumental case study risks it being a 'make-your-case' study (Corcoran et al., 2004). While clearly the Interdisciplinary Research Process (Repko & Svostak, 2017) involves intentionally integrating insights and creating common ground, it also advocates testing the validity/applicability of findings in real-life.

While conducting the case study I endeavoured to remain reflective and critically subjective and to be open and responsive to a different story than anticipated. The teacher interviews were predominantly open and no attempt was made to impose ideas or lead the interviewee.

The thematic analysis of the case study findings were carried out first within the conceptual framework of ESE and Steiner-Waldorf education, and only afterwards re-read through a CE lens, so as to attempt to avoid imposing CE theory onto the initial findings.

To enhance credibility of the case study section, all interview data was triangulated with school and class observation data, field notes, and document analysis data to ensure it was supported by other sources of data (Simons, 2009). All sources of data were analysed together so that the findings are based on the convergence of information from the different sources (Yin, 2014).

Dependability and confirmability were addressed by the maintenance of an 'audit trail' (Bloomberg & Volpe, 2016, p. 177), whereby data, analysis, decisions and interpretations were documented. The transferability of case study findings are limited, however, Bloomberg and Volpe (2016, p. 177) suggest deep, rich, detailed, descriptions regarding the participants and contexts as a basis for relevance to others.

To enhance credibility and confirmability of the Delphi study, descriptive statistics were used when summarising responses. Welch (2003) warns of the vulnerability of the Delphi technique to the manipulation by the researcher, especially since the process involves the consolidating and editing of ideas. The use of descriptive statistics to aid in the non-biased assessment of consensus was of help here, but the need to be vigilant in terms of bias was ever present.

There was a need to balance consolidating and honing items to achieve a high level of consensus, with allowing differences to be brought to, and remain at, the surface (Baumfield et al., 2012, p. 8). Taking full account of the participants' ratings and comments was important in this regard. Also, developing clarity in terms of differences was held as important as developing clarity in terms of consensus.

Throughout the whole research process, I sought to be critical and reflective in regard to the research design, interpretation of the findings, and when drawing conclusions. However, it should be acknowledged that I came to the study with certain assumptions (see Section 1.4) as well as a grounding in both ESE and CE theory, and therefore the interpretation of the data will reflect that. Nevertheless, it is hoped that the description given of the research will allow readers to make their own interpretations.

4 Findings

This thesis aims to explore what insights the field of character education (CE) might offer into teaching the values aspect of environmental and sustainability education (ESE). In order to accomplish this, three studies were conducted, each focussing on different aspects of the integration of insights from CE and ESE. Study 1 focussed on theory, Study 2 on practice, and Study 3 on feasibility. Thus, the three studies provide CE insights into the values aspect of ESE from three different, yet interconnected, angles. This chapter presents the main findings of each of the studies. A fuller, more detailed discussion of these findings can be found in the full text of the corresponding articles provided at the end of this thesis. The themes found across the collective findings of the three studies will be discussed in Chapter 5.

4.1 Summary of findings from studies 1–3

Study 1 (Article 1) examined the integration of CE and the values aspect of ESE from a virtue ethics theory standpoint, virtue ethics being one of the main approaches of CE. The study was an interdisciplinary collaboration between myself, coming from the ESE field, and Kristján Kristjánsson, a character educationist. Together, we integrated knowledge from the ESE and CE fields, resulting in a co-written philosophical (theoretical) article (Jordan & Kristjánsson, 2017) that explores how virtue ethics can address sustainability. The study is based on the argument that sustainability requires a transformational approach, one that rejects the 'status quo' and 'reform' approaches to societal changes necessary for sustainability, and instead calls for a fundamental change in society, in particular how humans relate to each other and to nature (Hopwood, et al., 2005). The study explores how virtue ethics, grounded in Aristotle's *Nicomachean Ethics* (ca. 335–332 BCE/1985), provides a framework with which to tackle such as transformation. The study revealed the advantages of a virtue ethics approach to sustainability, including:

- A virtue ethics approach entails an outlook that asks questions about what constitutes human flourishing, and how humans should

live accordingly, it is therefore well-placed to address sustainability as a concept, a developing moral aspiration and a way of life

- Virtue ethics is compatible with a growing body of research within social psychology in which prioritising intrinsic values (which resembles acting virtuously) appears to have a notable effect on people attitudes and behaviours related to social and environmental issues (Kasser, 2011).
- Virtue ethics provides a framework to address a myriad of sustainability issues. The trans-situational nature of the virtues, means they can be applied in vastly different contexts, which links to the context-specific nature of sustainability
- The intellectual virtue *Phronesis*—which can be translated as 'practical wisdom'—enables us to determine what the right reaction or action is in accordance with the path towards human flourishing (Aristotle ca. 335–332 BCE/1985, p. 154 [1140b4–6], see also Hursthouse, 2012), it particularly guides us when we are faced with difficult, complex or entirely new dilemmas (Aristotle ca. 335–332 BCE/1985, p. 148–172 [1138b20–1145a13]) which are commonplace in the field of sustainability
- The education, fostering, and maintained practice of virtue are integral to virtue ethics. Virtue ethics acknowledges that knowledge of the virtues alone (or what could be called 'virtue literacy') does not necessarily result in a person acting, reacting, thinking, or perceiving in a virtuous way. Virtue ethics provides a framework with which to purposefully develop more psychologically deep-rooted affective characteristics that are conducive to flourishing
- Regarding the human-nature relationship, virtue ethics is well-placed to tackle the issue of a more affective-based connection to nature and encouragement of a less anthropocentric view (Carr, 2004; see also Cafaro, 2001)

The study showed the insufficiency of current theory in Environmental Virtue Ethics to tackle sustainability, specifically its lack of adequately addressing the interconnectedness of our relationship with nature, both at the individual and societal level. Therefore, a new virtue 'harmony with nature' was developed to redress this omission. 'Harmony with nature' builds on Hursthouse's (2007) virtue of 'Being rightly oriented to nature' which entails teaching children to understand, appreciate, care for and feel wonder for nature, in a way that begins to shape a particular mindset relating to the natural world. The proposed virtue of 'Harmony with nature' expands Hursthouse's (2007) virtue to include 'holistic thinking' and

accentuates the idea of 'dynamism', thereby emphasising a holistic and encompassing view of the human-nature relationship, as enacted though individuals and societies, as well as encompassing the non-fixed, changeable, context-specific properties of sustainability.

In addition to proposing a new virtue, the study also suggested virtue ethics, both practically and theoretically, needs to reflect the interconnectedness of society and the environment. The study drew on the concept of 'living well' found within the traditions of the indigenous peoples of South America, for example the Ecuadorian Kichwa concept of sumac kawsay, meaning a fullness of life within a community, together with other people and nature (UNGA, 2014, p. 4). The concepts of the good life and living-well are of course central to the virtue ethical approach. However, although virtue ethics acknowledges that human flourishing must necessarily be situated within a well-ordered society (see Irwin 1999, xxiii), it has thus far typically neglected to incorporate the idea that human flourishing, and societal flourishing, must necessarily be situated within nature. The study concluded that virtue ethics must interpret human flourishing as situated within society, situated within the environment. This theoretical adjustment can be viewed as representing the transformatory approach to sustainability (Hopwood, et al., 2005).

The study also outlined the implications of the theoretical analysis for education, and suggested four areas where a virtue ethics-based CE could join forces with ESE: School/institution climate and exemplars, whereby the school/institution fosters an atmosphere and community that exemplifies sustainability, thereby acting as a role-model for sustainability; Experience in nature, whereby learners spend purposefully reflective time in natural environments; *Phronesis*, whereby learners are exposed to and practice engaging with the complex dilemmas associated with sustainability; and Citizenship and the intellectual, civic, and performance virtues, whereby virtues such as critical thinking, citizenship and resilience are fostered in relation to sustainability, in particular environmental activism and stewardship.

Study 2 (Article 2) examined the integration of CE and the values aspect of ESE from a practical angle. The instrumental case study carried out at an independent, all-ages, holistic-oriented school in Scotland, exploring how ESE and CE might intersect in theory and practice, through examining the school's approach to ESE and analysing if and how it relates to CE theory and practice.

The school was purposefully sampled as a particular example of an all-ages school that was perceived to take a holistic approach to ESE that included the values aspect of ESE, or affective learning. Data were gathered via teacher interviews, school observations, and document analysis.

The key findings show that ESE at the school was carried out through a variety of avenues, such as holistic learning approaches, the school environment, the subject matter studied, an emphasis on fostering students' connectedness to nature, and developing students' social competence and responsibility.

Thematic analysis (according to Braun & Clarke, 2006), revealed four themes (See Figure 1 in Article 2 at the end of this thesis). The first theme, *the school as a sustainable organism*, is based on the belief that sustainability needs to be enacted throughout the whole school, not just in lessons or the curriculum, but through the school ethos, organisation, and workings of the whole school. The Vice-principal in particular talked about the need for the school itself to be a role-model for sustainability.

The second theme, *holistic learning* (sub-themes: place-based, interdisciplinary, in-depth, and experiential learning), draws on the overall education approach of the school, and the general structure of teaching at the school whereby lessons are taught in thematic 'blocks'. By taking a holistic, interdisciplinary, topic-based approach to learning, multiple aspects of a given topic are explored and discussed. Interdisciplinary, experiential learning draws out the complexity of real-life, inevitably bringing in sustainability issues.

The third theme, *fostering a connectedness with nature*; is based on the concept of education as a means of fostering a reverence and love for nature that produces a lifelong concern for ecological sustainability issues. The sub-themes of *Craftwork*, *Addressing the Human-Nature relationship*, *Engendering a reverence/wonder/awe for nature*, and *Experiencing nature* show how specific approaches contribute to fostering nature connectedness. Although the importance of addressing the Human-Nature relationship is a central idea in sustainability, it is addressed uniquely and purposefully across the school, through a curriculum focus on the 'partnership' between humans and nature; the idea of craft-based learning as providing a grounding or foundation in the primal material world as a part of ESE; the engendering of a reverence for nature, brought about through an affective/emotional connection fostered through e.g. 'personalised' nature stories featuring gnomes and fairies; sitting and 'taking in'/reflecting on a natural view such as a sunset; an emphasis on

outdoor learning and experiential learning; or simply taking time to 'be' and reflect within a natural/outdoor setting.

The fourth theme, nurturing the whole person, is based on the need to educate the whole person. Educating the whole child is central to the Steiner-Waldorf curriculum and the school's approach. The sub-themes of a *Broad and balanced curriculum*; *Social competence*, whereby students learn social skills through the curriculum and the teaching method; and *Social responsibility*, whereby students increasingly take on service roles within the school and local community (e.g. beach cleans, and maintaining a local nature reserve), indicate the multifaceted approach evident at the school.

Overall, the findings show a holistic, *head-hands-heart* approach to ESE, balancing cognitive, practical, and affective learning. The school can be seen to be working with ESE through the *head*: e.g. transdisciplinary learning and curriculum, critical thinking; *hands*: e.g. experiential learning, craft skills (boat building, gardening), volunteer service/conservation work; and *heart*: e.g. nature connection and reverence, social responsibility, place-based learning, school ethos (see Sipos et al., 2008). However, several teachers stressed ESE permeates all teaching throughout the school (Teacher Interview 3, 4 & 5).

The findings were re-analysed from a CE perspective, revealing instances of CE and ESE intersection e.g. role-modelling, service-learning, and nature connectedness (See Figure 2 in Article 2 at the end of this thesis). ESE-CE intersection at the school is part of a holistic, interdisciplinary, whole-school educational approach. Integrated ESE-CE weaves throughout the holistic learning approaches, the curriculum, and ethos. The ESE-CE provision is predominantly implicit, but it is also intentional, being aligned with the school ethos that is both imbued with sustainability but also a head-hands-heart educational approach. Notably, *Engendering a reverence for nature* represents an example of environmental virtue ethics in practice (See Section 2.2.6 above, also Hursthouse, 2007; Sandler 2006), while linking to the often called-for mindset approach within ESE (Bonnett, 2002; Sterling, 2001), showing where ESE and CE intersect in both practice and theory

Study 3 (Article 3) examined the integration of CE and the values aspect of SE (See section 1.5 re. the use of SE rather than ESE) from a feasibility angle. Using the Delphi technique, 12 CE and SE experts were gathered, via email, to explore their perceptions regarding the feasibility of integrating theoretical/practical insights from the CE and SE fields. Experts rated their agreement and made comments on 41 statements. Fourteen statements reached 'consensus' (See Table 1 in Article 3 at the end of this thesis). The

findings reveal common ground between the two fields, as well as indicating where differences could be bridged and misunderstandings addressed. Thematic analysis revealed six themes.

The first theme, *SE has an ethical basis and provides practical application of CE*, revealed experts agreed that sustainability, and subsequently SE, is, at its core, an ethical issue. Experts agreed that CE was a means to help address these ethical, and more affective aspects of SE, and by doing so, CE would involve a more practical application of good character by addressing real, pressing sustainability issues, and thereby become more relevant to students' lives.

The second theme, *Values, pluralism and democracy*, relates to the tension between the need for democracy and pluralism, and the normative aspects in both sustainability/(E)SE and CE [See Section 2.1.3 re. the ESD 1 ESD 2 debate). The Delphi findings indicate that this is still a contentious issue within SE, revealing this as a reservation about (E)SE and CE integration. Interestingly, somewhat conversely, the Delphi saw all experts denounce schools being value-free, neutral environments. Overall, the findings show the experts support a balance between democracy and pluralism, and normativity. This was coupled with agreement on the importance of critical thinking being developed throughout education.

The third theme, *Individualism vs. collectivism*, revealed another reservation about SE and CE integration, this time being a perceived individual focus of CE. It was acknowledged there was a need for more attention to be given to the social and cultural context of character attributes, and how places can support or obstruct changes or the status quo.

The fourth theme, *Relationship with nature*, revealed experts' perceived need for CE, and SE, to more actively foster awareness of self as part of nature, or the more-than-human. This suggests an approach for CE in terms of integrating a SE perspective: to ensure that the environment is included when considering character, the virtues, and conceptions of flourishing. Another angle on the relationship with nature revealed in the Delphi was that of eco-citizenship. Experts agreed that participation and taking-action towards the creation of a sustainable future should be common to both SE and CE, and CE's emphasis on service and good citizenship could be infused with SE's sense of an environmental citizen.

The fifth theme, *Interdisciplinarity/Holistic education*, revealed all experts agreed an interdisciplinary approach in education would facilitate integration of SE and CE. Experts also agreed opportunities for integration

of CE and SE exist through real-world and action-oriented learning, which provide a rich context and connect to learners' real-life experiences. Related to this, a theme running through the experts' comments on various statements suggested that a move towards interdisciplinary, holistic education generally would perhaps be a better approach than focusing on CE-SE integration specifically. A holistic education approach would entail integrating CE and SE aspects, as well as a shift to a more interdisciplinary, real-life based, experiential, cooperative, and whole-school education approach.

The sixth theme, *Purpose of education*, found throughout the Delphi, revealed the experts' joint opinion of the need to examine the purpose or aims of education. The most agreed upon statement dealt with the issue of instrumental/exam-driven schools, which, coupled with a lack of discussion on the purpose of education, were considered barriers to SE-CE integration. The findings also suggest that there is potential for Flourishing-as-the-aim-of-education as an avenue of integration between the SE and CE fields.

While Study 3 does not offer a conclusive answer to the question of how feasible CE-SE integration is, it does reveal areas of common ground in terms of theory and practice, and in terms of mutual concerns/challenges e.g. exam-driven education and the influence of neoliberalism in education, thereby indicating potential future collaboration in terms of addressing the values aspect of SE, and the environmental aspect of CE.

Table 3

Summary of the findings from each of the three studies

Study 1
Philosophical (theoretical) analysis showed: • How virtue ethics can act as a framework to facilitate a transformation towards sustainability • Six advantages of a virtue ethical approach to sustainability • How we might foster a new virtue of *harmony with nature* and a holistic, ecological worldview, alongside other virtues, in order to address the complex problems inherent in sustainability issues • Where CE and ESE can interconnect and contribute to a transformational approach to sustainability: o School/institution climate and exemplars o Experience in nature o *Phronesis*—Exploring social and environmental connections through dilemmas o Citizenship and the intellectual, civic, and performance virtues
Study 2
• The school carries out ESE through a variety of avenues: o The school as a sustainable organism o Holistic learning o Fostering a connectedness with nature o Nurturing the whole person. • The school shows a holistic, *head-hands-heart* approach to ESE, balancing cognitive, practical, and affective learning. • ESE and CE can be seen to overlap at the school in terms of: o Role-modelling o Service-learning o Environmental virtue ethics • The school can be seen to employ predominantly indirect or implicit CE methods

Study 3

• Delphi experts agreed on 14 statements in regards to the feasibility of integrating insights from (E)SE and CE.
• Thematic analysis revealed:
  o Agreement on an ethical base of SE providing practical application of CE
  o A perceived tension between democracy, pluralism and normativity
  o Reservations about the individual nature of CE
  o The need for CE, and SE, to more actively foster awareness of self as part of nature
  o A desire for holistic and interdisciplinary education
  o Concern regarding exam-driven education
  o Agreement on the need to re-examine the purpose of education.
• The study revealed common ground between the two fields, as well as indicating where differences could be bridged and misunderstandings addressed, suggesting avenues for future collaboration and potential (E)SE-CE integration.

5 Discussion

This chapter will discuss the overarching themes generated from the findings across all three studies comprising the PhD research, thereby providing a more comprehensive view of what insights the field of character education (CE) might offer into teaching the values aspect of environmental and sustainability education (ESE).

This PhD research is guided by Repko and Szostak's (2017) Interdisciplinary Research Process (IRP), therefore, the discussion of the findings are framed by the steps in the IRP relating to the integration of disciplinary findings: Identifying conflicts between insights and creating common ground.

Eight overarching themes were identified and are organised under two headings: *Common ground* and *Tensions*. The themes will be discussed in relation to the extant literatures, relevant concepts, and theory that form the context and background to the research.

5.1 Common ground

'The interdisciplinary enterprise is about building bridges that join together rather than building walls that divide' (Repko & Szostak, 2017, p. 271).

Existing common ground between ESE and CE (overlap in terms of theory or practice) was found in the three studies, suggesting areas where CE might provide insight into teaching the values aspect of ESE. The themes of *A Whole person approach*; *The need to address the human-nature relationship*; *Common learning approaches/methods*; and *The purpose of education* were identified.

5.1.1 A whole person approach

The importance of a whole person approach to learning was a theme found in all three studies. A whole person approach meaning here an approach to learning that is holistic and which focuses on not only the academic development of the learner, but also their physical, social and emotional development. One framework for this is the head-hands-heart approach to learning (Sipos et al., 2008; Tilbury, 1997).

In Study 1, the importance of developing learners' emotions and feelings as part of a virtue ethics approach to sustainability was discussed. Study 1 reasoned the emotions are seen as integral to the motivational aspect of the virtues. This links to work by Hurthouse (2012, p. 1) who explains virtue is concerned 'with emotions and emotional reactions, choices, values, desires, perceptions, attitudes, interests, expectations and sensibilities. To possess a virtue is to be a certain sort of person with a certain complex mindset' (see also Hursthouse, 1999; Kristjánsson, 2007; Narvaez, 2014 in relation to the importance of emotion).

In Study 2, a *whole person approach* can be seen in the general holistic, head-hands-heart approach seen at the school, which is similarly realised in the school's approach to ESE. A main theme generated from Study 2's findings was *nurturing the whole person*, which emphasises an approach to learning at the school that involved a broad and balanced curriculum, and learning relating to social competence and social responsibility. As mentioned in Chapter 4 above, the school's approach to ESE is inline with the transformative sustainability learning approach outlined by Sipos et al. (2008), through, for example, transdisciplinary learning and curriculum (*head*); craft skills (boat building, gardening, painting) and service work/conservation (*hands*); and nature connection and reverence (*heart)*.

Study 3 found (E)SE and CE experts agreed (E)SE has a deep ethical basis and involves affective as well as cognitive learning. Experts also agreed on the need to address the ethical and affective aspects of (E)SE, and that CE was a means to help do so. The experts also considered the potential integration of the ethical aspect of (E)SE and CE as providing CE a more practical application of good character and greater relevance to learners.

The importance of a whole person approach aligns with theory developed by Krathwohl et al. (1964/1973) in relation to the affective domain (see section 2.1.4); as well as previous research that has emphasised the need to integrate cognitive, psychomotor/practical and affective learning in ESE (Fien, 1993/1995; Murray et al., 2014; Orr, 1992; Podger et al., 2010; Shephard, 2008; Sipos et al., 2008; Tilbury, 1997; UNESCO, 2019). Previous research links the importance of a whole-person approach to ESE to the motivation for change towards sustainability (Leiserowitz et al., 2006; Murray et al., 2014; Podger et al., 2010; Rieckmann, 2018). The importance of the affective domain in motivation was recognised in Study 1 and is consistent with the CE literatures, especially virtue ethics theory (Hursthouse, 1999; Kristjánsson, 2010; Narvaez, 2014). This is supported by social psychology research that places

values at the base of social and environmental concern and action (Corral-Verdugo et al., 2014; Kasser, 2011; Schwartz, 2007; Stern, 2000).

When seeking to balance the cognitive, psychomotor and affective domains of learning relating to transformative ESE, Sipos et al. (2008) found the head-hands-heart model an effective organising framework (See also Singleton, 2015). Relevant to this, Wangaard, et al. (2014) propose CE is one option in the movement to educate the head, hands and heart. The collective findings from the three studies support this, and are consistent with the findings of Krathwohl et al. (1964/1973) that link the affective learning domain to character. Character is depicted in the hierarchy of levels of learning beginning with *Receiving*, moving upwards through *Responding*, *Valuing*, *Organising*, and finally reaching *Characterising*, whereby the learner is characterised by the values they have internalised, and their behaviour is based on a self-organised system of values, attitudes and tendencies (Krathwohl et al., 1964/1973).

These findings indicate a head-hands-heart approach to ESE, integrating CE insights in relation to the heart/affective aspect of learning, may provide an alternative to the ESD 1 vs. ESD 2 debate (Vare & Scott, 2007, see also Wals et al., 2008; Wals, 2011) and potentially offer an avenue for the re-integration of the values aspect of ESE within a holistic approach to ESE, an approach that also comprises the vitally important cognitive aspects of learning e.g. interdisciplinary learning, systemic and critical thinking; and psychomotor/practical aspects of learning e.g. gardening, service-learning (Murray et al., 2014).

5.1.2 The need to address the human-nature relationship

The need to address the human-nature relationship was a theme found across all three studies. In Study 1, virtue ethics and in particular the proposed new virtue of 'harmony with nature', which addresses the interconnectedness of the human-nature relationship, were suggested as means to redress the human-nature relationship. In Study 2, the findings showed the case study school actively encouraged a 'connectedness with nature', notably through the fostering of a 'Reverence for nature' that involves an affective/emotional connection to nature, which the Principal likened to learning an ecological language, fostered through multiple avenues e.g. personalised nature stories, reflective time spent in nature, craftwork with primal materials, and through the pervading ethos of the school. The Delphi experts in Study 3 highlighted the need for (E)SE and especially CE, to more actively foster awareness of self as part of nature,

and it was suggested this could be a key point of intersection between (E)SE and CE.

The *Engendering a reverence for nature* theme found at the case study school in Study 2, aligns with research within environmental virtue ethics (see section 2.1.7), notably Hursthouse's (2007) proposed virtue of 'Being rightly oriented to nature' that entails sharing a common bond with nature and recognising that humans are members of earth's interconnected web, or community, of life. Hursthouse (2007) describes how teaching a child to understand, appreciate, care for, and feel wonder for nature begins to shape a particular mindset relating to the natural world, which parallels the theme *Fostering a connectedness with nature*, and the sub-theme *Engendering a reverence for nature* in particular. Hursthouse (2007) also explains how acquiring such a disposition towards nature would involve a fundamental change in one's emotions and one's entire way of perceiving and responding to the world. This supports research within ESE that asserts the need for a mindset change e.g. Bonnett's (2002) ideas on fostering 'sustainability as a frame of mind' and Sterling's work on ecological thinking/worldview. This research is also consistent with Krathwohl et al.'s (1964/1973) research on the affective learning domain, where the top level of the affective learning hierarchy, *characterising*, involves the learner integrating their internalised values with beliefs, ideas and attitudes into a total philosophy or world-view (Belton, 2016).

The need to redress the human-nature relationship, is consistent with previous research which contends that our un-sustainability is rooted in the fundamental features of our society and how we think about ourselves and the world, specifically how humans interrelate and relate to nature (Bonnett, 2002, 2004, 2007; Ehrenfeld, 2005; Ehrenfeld & Hoffman, 2013; Hopwood et al., 2005; Orr, 2004; Sterling, 2001). Hopwood et al. (2005) found that a transformational approach to sustainability entails an acknowledgement of the flawed conceptual divide between the environment and humanity that fails to convey the reality that society exists within, and is dependent upon, the environment. This aligns with ecofeminist theory that likens the 'mastery' approach to the environment to the suppression of women and other minorities and advocates relationship, connection, and interdependence. Ecofeminism affirms that humans, while individuals, are also situated within an ecological whole, and are members of an ecological community, (Kretz, 2009; Plumwood, 1991; Warren 1990/2001).

The need to redress the human-nature relationship theme also aligns with research on the concept of living well, which is part of the traditions of the indigenous peoples in South America, for example the *Kichwas* of Ecuador's concept of *sumac kawsay*, meaning a fullness of life within a community, together with other people and nature, with the individual being seen as part of a community, with that community being both human society and the environment (UNGA, 2014). The idea of living well (*Vivir Bien*; 'good life' in Spanish) has been gaining popularity over recent years, and was incorporated into Section II of the UN's 2014 report entitled *Living Well in Harmony with Nature* (UNGA, 2014). The concept of living well has also been incorporated into the constitutions of Ecuador (approved in 2008) and Bolivia (approved in 2009) (Gudynas, 2011). In the Bolivian constitution, *Vivir Bien* is included under the moral and ethical principles that guide the objectives of the state and is described using the guaraní concepts of 'harmonious living (*nì andereko*), good life (*teko kavi*), and the path to the noble life (*qhapaj nì an*) (Gudynas, 2011) (See also Narvaez et al., 2019 for more on indigenous sustainable wisdom). This is in line with the findings of Study 1, which link the human-nature relationship to our perception of what constitutes the concept of flourishing.

The findings above show where common ground exists between ESE and CE in terms of the need to address the human-nature relationship. While Study 1's findings suggest how virtue ethics theory can be extended to redress the human-nature relationship, Study 2's findings provide practical examples, which my be of use to others. Whereas, Study 3's findings highlight the need for (E)SE and especially CE, to more actively foster awareness of self as part of nature. Study 3's findings also indicate addressing the human-nature relationship could be a key point of intersection between ESE and CE, revealing a potential area for further research.

5.1.3 Common learning approaches/methods

Several learning approaches and methods common to both ESE and CE were revealed in the findings from all three studies. ESE and CE were found to overlap in terms of the following learning approaches/methods: school climate, ethos and role-modelling (Studies 1 & 2); service-learning (Studies 2 & 3); and Interdisciplinarity, real-world and holistic learning (Studies 2 & 3).

5.1.3.1 School climate, ethos, and role-modelling

In Study 2, the Vice-principal of the case study school talked about the need for the school itself to be a role-model for sustainability, and that sustainability education needs to exist not just within the curriculum, but also throughout the entire workings and organisation of the school. By explicitly emphasising environment and sustainability in the school ethos, they are brought to the forefront of learning through, for example, a focus on the human-nature relationship in the curriculum, the school as a role-model, and the prevalence of experiences in nature (including community service work) that seek to foster a reverence for and connection to nature. The school's environment and sustainability imbued ethos purposefully permeates throughout the whole school ensuring that the knowledge, skills and values learnt relate to the environment and sustainability.

Study 1 suggested school climate and moral exemplars as approaches where ESE and CE can join forces. Exemplars or role-models are a central idea within virtue ethics (See Aristotle, ca. 335–332 BCE/1985; Arthur, 2020; Arthur et al., 2017; Hursthouse, 1999) and role-modelling is considered a fundamental method in CE (Arthur et al., 2017; Berkowitz, 2011, 2017). Sanderse (2013) contends that for role-modelling to be effective, it needs to be emulative, where the learner understands the reasoning and emotions motivating the behaviour being modelled (see also Arthur et al., 2017). This type of role-modelling is supported in Study 1 school by the informal and close relationships among students and staff, whereby teachers explain their thinking openly. Berkowitz (2017, p. 93) states the importance of power-sharing and 'a pedagogy of empowerment' as part of CE. Crucially, emulation is facilitated through the school's whole-school approach, where individual actions fit into an overall stance in terms of sustainability. Interestingly, the school itself, the school community and individuals collectively within that environment seem to model sustainability more so than individual teachers, e.g. the nature filled school grounds; the practices of the school in terms of material choice and use; the whole school participating in outdoor week where the school outdoor areas are enhanced, such as building an amphitheatre for school plays; the celebration of 'nature festivals' by the school community; as well as the non-hierarchical structure of staff relationships. This is in line with previous research on implicit moral education through the school community, as supported by Dewey (1909/1975) who maintained vital moral education and development of character takes place through all the workings of school life. Indirect moral education is considered more influential than

direct moral instruction: character is more caught than taught (Arthur et al. 2017; Dewey, 1909/1975) therefore role-modelling, school culture and ethos are essential to CE. This aligns with research by Shephard (2008) that stressed the central role of role models in teaching affective outcomes in relation to sustainability.

The findings above indicate a potential avenue for ESE-CE integration. It would be interesting to further investigate the crossover of research on school climate/ethos and role-modelling, especially the idea of the school institution as a role-model, and how this relates to research on role-modelling and exemplars in the field of CE.

5.1.3.2 Service-learning

In Study 3, the Delphi experts agreed that being skilled and determined to take action towards the creation of a sustainable future should be common to both (E)SE and CE. The experts agreed (E)SE could learn from CE in terms of its important emphasis on service, ethics, and what it means to be a good citizen. On the other hand, it was agreed CE would benefit from opportunities to infuse, consider and experience what it means to be an environmental citizen. Experts agreed CE's purpose could be guided by SE and reoriented towards fostering responsible environmental- or eco-citizens, thereby taking a more eco-centric rather than a predominantly socio-centric approach. It was suggested this could be a key point of intersection between (E)SE and CE. In the CE literatures, Lapsley and Narvaez (2007) found service learning provides students with opportunities for moral action, and provides a meaningful way for students to engage in character development while contributing to the community/society. However, previous research has stressed the importance for learners to reflect personally and critically on their experiences, with others, and their own sense of purpose (Arthur, et al., 2017).

In Study 2, the case study school was found to place an emphasis on service learning, which fell under the sub-theme of *Social responsibility*. Social responsibility is a key area of the school's curriculum, and is enacted at the school through learner participation e.g. in beach cleans, school gardening, and maintain a local nature reserve and nearby orchard. This is considered an important aspect of educating the whole person. It also connects to the school's head-hands-heart approach, where service learning such as conservation work would be considered as 'hands', though in reality the 'head' and 'heart' are also simultaneously engaged. Research by Sipos et al. (2008) found that community service-learning, such as community gardening, engaged the head, hands, and the heart, and

therefore contributed towards transformative sustainability learning. Whereas, Podger et al. (2010) found service-learning to be a means of developing moral motivation for sustainability.

These findings are in line with previous research by Shephard (2008) that found that service learning is often employed as a means to achieve affective learning outcomes, employing reflective experiential learning to engage learners with community-based issues and needs (See also Lewis et al, 2008; Tudball, 2010). Notably, in Study 2, the case study school differs from many other service-learning programmes, particularly those pursued within the field of CE, in its emphasis on the ecological. The school places a particular emphasis on outdoor, nature-based service learning, thereby demonstrating an integration of ESE and CE, where the typically more socially-oriented service-learning, as seen within CE, intersects with ecological-sustainability oriented learning.

The above findings illustrate common ground between ESE and CE and indicate service-learning may offer potential for ESE-CE integration. While Study 2's findings offer examples of such integration that others could benefit from, it would be worthwhile to further research other practical examples of where CE service-learning and ESE service-learning could be integrated. Additionally, it would be interesting to further explore and gain an interdisciplinary overview of previous research relating to service-learning within both fields.

5.1.3.3 Interdisciplinarity, real-world and holistic learning

In Study 3, interdisciplinarity was one of the main themes found in the Delphi data. The Delphi experts agreed an interdisciplinary approach in education would facilitate integration of (E)SE and CE. One expert considered interdisciplinary working the most fertile ground for an integrated (E)SE-CE approach to flourish. A related point of agreement, referred to real-word learning, in which opportunities for integration of CE and (E)SE were considered to exist, and which experts thought provided a rich context and connection to learners' real-life experiences. Real-world learning is a natural means of interdisciplinary learning. Although interdisciplinary education can be implemented somewhat superficially, more akin to multi-disciplinarity or cross-disciplinarity (Repko & Szostak, 2017), the sense within the Delphi was one of a need for holistic education, which incorporates interdisciplinary curricula and real-world learning, as well as whole-systems thinking, cooperative learning, critical thinking, school as community, and experiential learning (Forbes, 1996; Forbes and

Martin, 2004). Many in the ESE field have called for a more holistic form of education; see, for example, Sterling (2010, 2014).

The findings from Study 2 support this. *Interdisciplinary learning* was generated as a sub-theme under the theme of *holistic learning*, alongside the sub-themes of *experiential learning, place-based learning*, and *in-depth learning*. Interdisciplinary learning can be seen at the school through 'main lessons', where topics and themes are studied in-depth over a block of time, allowing for different aspects to come through e.g. one teacher explained that gender equality issues are discussed as part of theatre studies through the historical role of women in theatre.

The Vice-principal talked about not teaching subjects in isolation and the realisation of the 'joined-up-ness' of the world being essential to sustainability. By taking a holistic, interdisciplinary, topic-based approach to learning, multiple aspects of a given topic are explored and discussed. For example, during a canoe building project, the origin/life-cycle of the materials (e.g. repurposed barrels) were discussed, alongside concepts such as buoyancy, and the development of craftwork and teamwork skills. Later the canoe was used in a group expedition and formed part of a shared student experience in nature. Another example was an upper-school class-trip to the local recycling centre, where a lecture was held by the staff, but then the students walked around the facility, asked questions, explored issues of non-recyclable waste and consumption, and then browsed in the second-hand/reuse-repurpose shop. The trip provided a memorable, real-life, tangible experience of the issue of recycling and the connected wider issues such as consumption and local funds for such initiatives. These findings from the school show how knowledge, skills and values are inextricably bound together in student learning. Interdisciplinary, experiential learning draws out the complexity of real-life, inevitably bringing in sustainability issues.

These findings align with previous research by Shephard (2008) on the teaching and learning activities relating to sustainability education and the affective learning domain. He found that most activities used experiential learning e.g. discussion, problem-based learning, group analysis of case studies, expert engagement, perspective sharing via reflection (Shephard, 2008). In this context, it's worth bearing in mind, although ESE is more likely to occur within experiential and interdisciplinary learning approaches, it is the fact that the school's environment and sustainability imbued ethos purposefully permeates throughout the whole school that ensures that the

knowledge, skills and values learnt relate to the environment and sustainability.

Interestingly, in Study 3, a theme running through the Delphi experts' comments on various statements suggested that a move towards interdisciplinary and holistic education generally would perhaps be a better way forward than focussing on (E)SE-CE integration *specifically*. A holistic education approach would entail integrating ESE and CE aspects, as well as a shift to a more interdisciplinary, real-life based, experiential, cooperative, and whole-school education approach (Forbes, 1996; Forbes and Martin, 2004). These findings indicate a common goal for both ESE and CE, one of a more holistic, interdisciplinary approach to education.

5.1.4 The purpose of education

The purpose of education was revealed as a common theme in the findings from Studies 2 & 3. In both studies, this was tied to challenging the instrumental approach to, and influence of neoliberalism on, education.

In Study 3, the need to examine the purpose or aims of education was generated as a theme from the Delphi experts' conversation. The most agreed upon statement in the Delphi, stated a lack of discussion on the purpose of education, coupled with the issue of instrumental/exam driven schools and a narrowing of the curriculum to focus on 'core subjects' (due to competitiveness, inspection frameworks, austerity, etc.), act as barriers to (E)SE and CE integration.

These findings align with research in the ESE field that contests neoliberalism and neoliberal conceptions of economic growth and hyper-individualism, and instead promotes alternative social imaginaries that advocate for the environment and community (Hursh, et al., 2015). In his 2004 book, *Earth in Mind*, Orr (2004) began by asking: What is education for? And went on to deride westernised education that aims to produce so-called 'successful' individuals rather than people who will live well in their places, and who have the moral courage to join the fight to make the world inhabitable and humane. Elsewhere, Orr (2001) criticises education that aims to prepare individuals for careers in the global economy while the world deteriorates, and reasons we must reclaim education from those that intend it to be homogenized, standardized, and industrialized. Many consider the instrumental, exam-driven approach in westernised education to be detrimental to sustainability efforts; it does little to prepare learners for living in a future that will face a multitude of complex sustainability issues, e.g. climate change, collapsing fishing stocks, loss of biodiversity, etc.

Furthermore, an emphasis on preparing learners for the workplace denies learners the time and space to fully develop as individuals, community members, citizens, and moral agents.

In Study 2, the webpage outlining the school ethos asks 'What is the true purpose of our education system?' and 'Are we teaching our pupils the life skills they need?' and acknowledges the difficulty in imagining an alternative mind-set to the prevalent post-industrial model of education. The ethos then states the school is 'living with these questions and implementing many of the answers'. The ethos then goes on to stress the need for education to develop the whole potential of the human being and criticises education that is driven by 'economic and political agendas' with the view to produce only 'good workers'. The school instead aims to develop healthy and resilient adults' who are resourceful, adaptable, empathetic and compassion, and as such able to meet the emergent future sustainably. It argues that in order to do this, education must hold the work of the head, the heart and the hands in constantly balance.

These findings are consistent with research within the holistic education field. Miller (2019) for example, found that holistic education approaches challenge the tests and standards focus in westernised education, seeing this approach as reflecting a materialist and consumerist society that reduces education to the training of individuals for the workplace, to compete and consume in the global marketplace.

Although the findings reveal common ground in terms of the need to redress the purpose of education, the question remains as to what that purpose should be. Study 2 revealed the case study school's aims are based on a holistic, sustainability-oriented approach. Whereas Study 3 revealed common ground between (E)SE and CE regarding the purpose of education: the concept of flourishing. All experts agreed that to lead fulfilling lives we need a healthy planet, and living sustainability, in community with all life, and pursuing human flourishing (*eudaimonia*) are all part of the same project.

Recently, the concept of 'Flourishing' has re-surfaced as a discussion point across multiple research fields, significantly as 'Flourishing-as-the-aim-of-education' (See Kristjánsson, 2017, 2020; Narvaez, 2015). Extending the concept of flourishing, which ordinarily refers only to individual and societal flourishing (Narvaez, 2015), to be more in line with sustainability, as proposed in Study 1, offers a potential avenue for integration between the (E)SE and CE fields in terms of the purpose of education.

These research findings are of interest in terms of placing the integration of ESE and CE insights within the context of westernised, instrumental education and neoliberalism, and the associated academic discourse. While these findings indicate potential barriers to ESE-CE integration, they also suggest areas where ESE and CE share mutual concerns/challenges and common purpose, thereby indicating potential future collaboration in terms of jointly working towards shared goals.

5.2 Tensions

Interdisciplinary research involves exploring the roots of conflicts or tensions between disciplinary insights (Repko & Szostak, 2017). Ideally, these tensions can be addressed or accommodated, however Repko and Szostak (2017) caution against expecting the process of integration to always result in a neat and tidy solution in which all disagreements between the different disciplinary insights are resolved. In fact, they argue tensions between disciplines further our understanding, and as such are a beneficial aspect of interdisciplinarity (Repko & Szostak, 2017). Below are two existing tensions found across the research. Although the tensions were made explicit in Study 3, they were also alluded to in Studies 1 and 2.

5.2.1 Democracy and pluralism versus normativity

One of the main themes generated in Study 3 was that of 'Values, pluralism and democracy'. The theme referred to disagreement among Delphi experts in terms of a perceived friction between the need for democracy and pluralism, and the normativity inherent in ESE and CE. Many of the ESE experts stressed the importance of a democratic approach, including free opinions, and a neutral or critical thinking approach, and an avoidance of indoctrination or pre-set thinking or valuing; thereby allowing learners to make ethical decisions for themselves. This finding is consistent with previous research within ESE regarding what is referred to as the ESD 1 versus ESD 2 debate (Vare and Scott, 2007), or the 'instrumental' approach versus the 'emancipatory' approach to ESE (Wals et al., 2008; Wals, 2011; See also Jickling and Wals, 2013) and Kopnina's critique of it (2012, 2014; see also Kopnina and Cherniak, 2016), as discussed in Chapter 2. Study 3's findings indicate that this is still a contentious issue within ESE (see Sterling, 2010).

Interestingly, none of the CE Delphi experts viewed an anti-democratic stance as belonging in CE. It seems that the CE experts, and perhaps character educationists more generally, do not see the same divide

between democracy and normativity, that is represented in the ESD 1 and ESD 2 debate within ESE. This aligns with previous research by Kristjánsson (2013) on the 'persistent myth' that CE is anti-democratic and anti-intellectual. Kristjánsson (2013) argues that although CE at an early age may aim to create ethical habits in learners, it also aims to create, at an older age, autonomous individuals, capable of critical and independent thought and choice. Peterson's (2020) research is also relevant, linking CE with a well-functioning political community, involving practices and institutions that support deliberative citizens. Peterson (2020) also claims that democracy unavoidably involves morality and virtues such as honesty, compassion, gratitude, and kindness, as well as civic virtues such as tolerance, and open-mindedness affects the level and quality of an individual's participation within the community. These insights from CE on the relationship between democracy and normativity might indicate a worthwhile point of CE-ESE integration.

Another interesting aspect to this tension emerged in Study 3, where all Delphi experts denounced value-free education/schools, agreeing no education is value free, and schools teach values and norms over the entire school day, as well as ethics, values and questions of character as being central to school education (see Kristjánsson, 2013, 2015; Lapsley & Narvaez, 2007). This was a surprising finding, and somewhat at odds with the above finding relating to the importance of maintaining a neutral or critical thinking approach that avoids pre-set thinking or valuing.

However, overall, the discussion between the experts in Study 3 suggested support for a balance between normativity, and democracy and pluralism, and emphasised the importance of critical thinking being developed throughout education. This connects to findings from Study 2, where teachers stressed that the school didn't teach ESE through rules, such as 'Don't drop litter', and the ESE approach was implicit not explicit. However, the school certainly sought to foster a reverence for nature, and purposefully addressed the human-nature relationship in the curriculum as well as having a clear environment and sustainability imbued school ethos, thereby suggesting the school aims to balance democratic and normativity concerns. Aligning with Kristjánsson's (2013) reasoning above regarding the different stages/ages of moral development in CE, the findings from Study 2 suggest the school, in accordance with the guiding Steiner philosophy, takes different moral education approaches according to the ages of learners e.g. with younger learners the emphasis is on imitation e.g. school gardening, stories of fairy-tale nature spirits, the school ethos, whereas with older learners the emphasis is on fostering judgement, intellect and practical

idealism (Hether, 2001) e.g. circle discussion time in the schools personal and social learning classes, and the open, non-hierarchical approach to the learning environment.

In conclusion, a key finding from Studies 2 & 3 was the need for *balance* between these two important aspects of sustainability and ESE: democracy and normativity. The findings also emphasise the need to include critical thinking as part of both CE and ESE, which ties back to the head-hands-heart approach discussed above under *5.1.1: A whole person approach* as a potential approach to achieving this balance.

A question remains of how to allow learners to stay open to different possibilities in a democratic setting, when such a setting is heavily influenced by existing, and in many cases neoliberal, values and cultural norms, influencing not only the learners but also the inclusivity of the democracy being practiced (See Hursh et al., 2015, for an overview of the influence of neoliberalism in ESE).

5.2.2 Individualism versus communitarianism

A theme that emerged from the findings was that of individualism versus communitarianism, or extending one's concern outward from the self to the community, and to the environment. This theme overlaps with the theme *The need to address the human-nature relationship* discussed in section *5.1.2* above. However, it is worthwhile including here under the sub-heading of tensions, as it emerged as a potential barrier to (E)SE-CE integration in Study 3. As reported in Chapter 4, Delphi experts in Study 3 expressed reservations about (E)SE and CE integration due to the perceived individual focus of CE. (E)SE experts generally considered (E)SE to be communitarian, whereas CE was considered to be individualistic, i.e. focussed on the individual. However, the Delphi CE experts argued that this was a classic misconception, and in fact CE asks learners to consider themselves as individuals as part of communities or society. Nevertheless, it was acknowledged that an across the board communitarian CE might in fact be more an aspiration than a reality.

A related point that arose in Study 3, as discussed in *5.1.4: The purpose of education* above, was the agreement between all the experts that the pursuit of human flourishing and living sustainably in community with all life are part of the same project.

Both the above points connect to the discussion in Study 1 for the need to view environmental and social issues as interconnected and the idea that

human flourishing exists within social flourishing and environmental flourishing (Hopwood, et al., 2005; Narvaez, 2015).

In addition to the above points, there was agreement between the Delphi experts in Study 3 that there was a need for more attention to be given to the social and cultural context of character attributes, and how places can support or obstruct changes or the status quo. This relates to the powerful influences of neoliberalism in westernised societies discussed in the theme above. All Delphi experts agreed a 'right-wing' or neoliberal interpretation of CE that focused exclusively on agency, resilience and self-confidence in individuals and society would be at odds with the sustainability efforts. One CE expert stated this would represent a distortion of CE by those with an agenda, and the CE experts agreed an individualistic, 'right-wing' CE was fundamentally flawed. In previous research, Kristjánsson (2013) acknowledged the individualistic perception of CE and claimed that it was a myth, reasoning that most CE approaches aim for societal reform yet claim the question of individual versus societal reform is akin to the chicken-and-egg question, which comes first? Therefore, CE, for developmental and pragmatic reasons, addresses the individual student or classroom rather than the less feasible entire school system or wider society. However, even if change is viewed as beginning at the individual level, issues of gender, class, ethnicity, and power could be more thoroughly and actively tackled in CE.

In the context of sustainability and ESE these findings align with ecofeminism theory, which was discussed in Study 1, that stresses the need to view environmental issues in relation to social structures, social inequalities and to ask questions about the relationships among complex eco-social histories or institutions (Cuomo, 1998/2001, 2005). This also relates to the discussion of research by Hopwood et al. (2005) within Study 1, and the argument for a transformational approach to sustainability that challenges the 'status quo' and 'reform' approaches, as both fail to address the economic and power structures of society that are at the root of environmental and societal problems.

In summary, findings from Studies 1 & 3 highlight the need for the CE field to better address persisting concerns regarding its individual focus, by actively emphasising a societal and environmental focus; acknowledging the interconnectedness of social and environmental issues; as well as purposefully challenging the status quo in regards to power structures in society.

6 Conclusion

The final chapter of this thesis will begin by briefly summarising the overall findings of the study. It will then show how the research contributes to the relevant literatures and propose the implications of the research, including suggestions for future research. The choices and limitations of the research will then be discussed, before lastly presenting reflections on the research process.

This research posed the question: What insights might the field of character education (CE) offer into the problem of teaching the values aspect of environmental and sustainability education (ESE)? The three studies conducted each explored the question from a different, yet interconnected, angle: Study 1 focussed on theory, Study 2 on practice, and Study 3 on feasibility. Together, the findings indicate areas of common ground between ESE and CE: school climate/ethos and role-modelling; service-learning; interdisciplinarity, real-world and holistic learning; taking a whole-person or head-hands-heart approach to education; the need to address the human-nature relationship; and the need to examine and redress the purpose of education, particularly in regards to challenging the instrumental approach to, and influence of neoliberalism on, education. The findings also reveal points of tension between ESE and CE: friction between the need for democracy and pluralism, and the normativity inherent in ESE and CE; and the perceived individualism of CE versus the communitarianism (or extending one's concern outward from the self to the community, and to the environment) of ESE. In terms of the feasibility of future ESE-CE integration, the areas of common ground and points of tension represent possibilities for, and barriers to integration respectively.

6.1 Towards an integrative understanding: implications and future research

This research contributes to the discourse on teaching the values aspect of ESE by supporting previous research on the need to include all three aspects or dimensions of learning: cognitive (head); psychomotor/practical/behavioural (hands); and affective/social and emotional (e.g. UNESCO, 2019). The research particularly adds to the discussion regarding the ESD 1/Instrumental versus the ESD

2/Emancipatory dichotomy (Vare & Scott, 2007; Wals et al., 2008; Wals, 2011) and the associated normativity-democracy tension. The findings have implications for the way ESE researchers and practitioners view affective learning by challenging the view that it is in conflict with critical thinking or an ESD 2/emancipatory approach to ESE, and instead suggest these are different yet crucial aspects of learning that need to be held in *balance*.

As mentioned above, in Section 5.1, the findings indicate a head-hands-heart approach to ESE, integrating CE insights in relation to the heart/affective aspect of learning, may potentially offer an avenue for the re-integration of the values aspect of ESE within a holistic approach to ESE, an approach that also comprises the vitally important cognitive (e.g. interdisciplinary learning, systemic and critical thinking) and psychomotor (e.g. gardening, service-learning) aspects of ESE.

However, a question remains of how to maintain the 'critical–affective' balance in light of the often substantial influence of neoliberal values and cultural norms. This is an area where I suggest ESE and CE researchers could benefit from seeking insights from each other in order to gain a better understanding of this necessary balance, and how to teach in light of it.

To date there has been very little interaction or collaboration between the ESE and CE fields, neither in terms of theory nor practice. The common ground identified in this research could lead to future collaboration and potential integration, between both researchers and practitioners. The research indicates multiple points of ESE-CE intersection in terms of learning approach/methods thereby creating links between the ESE and CE fields in regards to theory and practice relating to school climate/ethos and role-modelling (Arthur et al., 2017; Berkowitz, 2011, 2017; Sanderse, 2013; Shephard, 2008); interdisciplinary learning (Dewey, 1909/1975; Shephard, 2008); and service-learning (Arthur et al., 2017; Lapsley & Narvaez, 2007; Shephard, 2008), thus expanding the knowledge base regarding these approaches/methods (For more detail in this regard, see Chapter 4: Findings and Chapter 5: Discussion).

The exploratory nature of this research positions it as a basis for future research. Action research bringing together ESE and CE practitioners would provide valuable insight into how integration of the values aspect of ESE and CE might function in practice. It would be worthwhile to further investigate the crossover of existing research within ESE and CE on school climate/ethos and role-modelling, especially the idea of the school institution as a role-model for sustainability, and how this relates to research on role-modelling and exemplars in the field of CE. It would also

be interesting to further explore the common ground of service-learning. While service-learning is certainly advocated within ESE, it is more central to and prevalent within CE. Thus, the CE field could offer important insight into how to incorporate these approaches, as well as offer research in support of them. Conversely, the CE field could benefit from further research examining how typical CE approaches are altered by an environmental and sustainability emphasis, thereby expanding the remit of CE in line with the sustainability challenges we face today.

The research also indicates a common goal for both ESE and CE, that of a more holistic, interdisciplinary approach to education. It may be that a more holistic education generally would be a better way forward than focussing on ESE-CE integration *specifically*. A holistic education approach would entail integrating ESE and CE aspects, as well as a shift to a more interdisciplinary, real-life based, experiential, cooperative, and whole-school education approach.

The research adds to our knowledge on the need and means to address the human-nature relationship. The findings suggest how virtue ethics theory can be adapted towards redressing the human-nature relationship, and the concept of flourishing can be extended in accordance with sustainability. Additionally, the research findings may prove particularly interesting for practitioners in terms of illustrating practices that schools might adopt and adapt in order to foster learners' connectedness with nature. The case study (Study 2) school's approach of *Engendering a reverence for nature* shows how ESE and CE can intersect in practice, while it also demonstrates a link between the ESE and CE literatures. Environmental Virtue Ethics, particularly Hursthouse's (1997) virtue of 'Being rightly oriented to nature' resonates with voices within the ESE discourse that call for fostering a deeper nature connection (Sobel, 1996, 2017) and mind-set/worldview change in learners (Bonnett, 2002; Sterling, 2001). The findings also indicate addressing the human-nature relationship is a key point of intersection between ESE and CE, revealing a potential area for further research.

The research supports arguments within education discourse for the need to examine and redress the purpose of education, particularly in regards to contesting the instrumental approach to, and influence of neoliberalism on, education (Hursh et al, 2015; Orr 2001, 2004). The findings suggest this is a common position held among ESE and CE academics and practitioners. Study 2 offers a case study example of a

school that aims to eschew a neoliberalism-influenced education, instead aiming towards an education that is holistic and imbued with sustainability.

The research findings point to this as a potential avenue for future collaboration in terms of a common challenge faced by the two fields—areas where it would be worthwhile to pursue further interdisciplinary research, in particular the research on flourishing as the aim of education might prove fruitful to both fields.

However, the research raises questions in regards to the feasibility of future collaboration and integration of ESE and CE insights by revealing tensions regarding the individual focus of CE versus the communitarian focus of ESE. While many voices within the CE discourse may recognise CE as outward looking, asking learners to view themselves as part of communities or society (Narvaez, 2014; Peterson, 2020), the 'misconception' of individualism evidently persists.

These findings should be of concern to those within the CE field in particular, as it implies work still needs to be done on confronting the perception of CE as individualistic. The research highlights the need for the CE field to actively emphasise a societal and environmental focus; acknowledging the interconnectedness of individual, social and environmental issues.

The findings also contribute to the discussion on the need to address the social and political structures in relation to sustainability challenges (Treanor, 2010). The findings suggest that while CE academics and practitioners may argue most CE approaches aim towards societal reform, the field at all levels needs to engage more with issues of gender, class, ethnicity, and power. CE needs to purposefully challenge the status quo in regards to power structures in society if it is to join forces with ESE and contribute to a transformation towards sustainability.

At a more practical level, and rather further in the future, another worthwhile avenue for research would be to explore the impact of ESE and CE integration on teacher education and professional development.

Integration, as part of interdisciplinary research, aims towards a fuller understanding; changed concepts, theories and methods; as well as encouraging new questions (Repko & Szostak, 2017). By revealing and critically examining the range of possibilities for integration of ESE and CE; by revealing commonalities and indicating where differences could be bridged and tensions addressed; and by indicating new avenues for research, this PhD research contributes to our understanding of teaching

the values aspect of ESE, and conversely the environmental and sustainability aspect of CE (Repko & Szostak, 2017).

6.2 Choices and limitations

During the course of the research, various choices were made in terms of research approach, scope and methodology. Additionally, the research carried out has its limitations. This section will look at the choices and limitations within each of the three studies as well as the research as a whole.

Overall, the research takes a very broad and general perspective on ESE-CE integration. Studies 1 and 3 were carried out with an international viewpoint, and while Study 3 was situated in the Scottish context, the findings were presented with the view to being as universally relevant as possible. There is no single or universal education system, but instead a variety of different priorities, pedagogies and sociocultural contexts and expectations, including varying degrees of ESE and CE uptake. The implications of the research are broad and general, leaving the finer details and applicability to be worked out (and researched) in local contexts and specific settings.

Study 1 took an exclusively Aristotelian virtue ethics approach to CE. This was in part due to the study being joint research between myself and an Aristotelian character educationist, but also, and the reason behind the choice of co-researcher, an Aristotelian virtue ethics approach to CE was considered the best fit in terms of ESE-CE integration (as explained in Study 1). However, it should be acknowledged that CE is a broad field encompassing different approaches e.g. positive psychology, values clarification, and the study doesn't substantially explore the different approaches to CE and what they may offer ESE. Although Study 3 left the type of CE open and undefined during the Delphi discussion, there was a leaning towards Aristotelian virtue ethics approach to CE among the CE experts. Although the specifics and nuances of different approaches were left unexplored, given the range of backgrounds and nationalities within the expert panel, it was decided that narrow definitions would prove a barrier to the discussion and ESE-CE integration at this stage.

In relation to ESE, the type of ESE was also left open and undefined in the three studies. It was, similar to CE, considered limiting to the research to pick a narrow definition for ESE, thus narrowing the possibilities for insight into ESE-CE integration. It is worth restating that whereas Study 2 uses Environmental and Sustainability Education (ESE), Study 1/Article 1

and Study 3/Article 3 use the term sustainability education (SE) (See section 1.5 in relation to this)

Study 2 involved an instrumental case study, and as such, it is important to acknowledge that the nature of an instrumental case study risks it being a 'make-your-case' study (Corcoran et al., 2004). While clearly the Interdisciplinary Research Process (Repko & Svostak, 2017) involves intentionally integrating insights and creating common ground, it also advocates testing the validity/applicability of findings in real-life. While conducting the case study I endeavoured to remain reflective and critically subjective and to be open and responsive to a different story than anticipated. The teacher interviews were predominantly open and no attempt was made to impose ideas or lead the interviewee. The thematic analysis of the findings were carried out first within the conceptual framework of ESE and Steiner-Waldorf education, and only afterwards re-read through a CE lens, so as to attempt to avoid imposing CE theory onto the initial findings. However, it should be acknowledged that I came to the study with grounding in both ESE and CE theory, and therefore the interpretation of the data will reflect that. Nevertheless, it is hoped that the description given of the case will allow others to make their own interpretations.

The case study in Study 2 is exploratory and in no way evaluates the outcomes of the educational approaches seen at the school. In fact, the vice-principal of the school raised the issue of whether the school produced more sustainable pupils, and whether any particular education system will lead to a more sustainable future, particularly given the substantial role that contextual factors play in whether people act sustainably or not. The issue of evaluation is problematic in both ESE and CE, and is in fact an area of research in which the two fields might fruitfully collaborate.

Study 3 involved a limited number of participants, as is customary with a Delphi study. However, this should be kept in mind when viewing the findings. Although every attempt was made to gather a broad range of opinions, as mentioned above, there was a leaning, though not exclusivity, towards a neo-Aristotelian approach to CE within the CE experts. Additionally, there would inevitably have been a degree of response bias, i.e. those individuals interested in the topic would have given time to the study. A larger, perhaps survey-based study in the future, could gather opinion more widely.

It was attempted to remain as impartial as possible throughout the Delphi, particularly when constructing and refining statements. Producing

statistics for the statements in terms of levels of consensus certainly aided this, and every attempt was made to include all perspectives (even though this had some negative consequences in terms of the complexity of statements, see below). However, researcher interpretation is never truly objective, and therefore I encourage readers to make their own interpretations of the data.

One of the major limitations of this Delphi study, and perhaps all Delphi studies, is that agreement on broader concepts can belie underlying disagreements on more specific points. There was a great deal of 'yes, but . . . ' commenting during the Delphi discussion. To attempt to counter this, specific disagreements or interpretations that were hidden under a general agreement on statements, were often incorporated into an existing or occasionally new statements in the subsequent round.

The fact the Delphi study was carried out via email meant perhaps the discussion involved less interaction between experts. If the Delphi had been carried out in person, there would likely have been much more to-and-fro between experts. However, there are also advantages of email based Delphi studies, such as being less susceptible to 'domineering voices', and providing a convenient means to gain an international perspective.

The Interdisciplinary Research Process (Repko & Svostak, 2017), which guides this doctoral research, involves intentionally integrating insights and creating common ground, and it was certainly my view to do so. I came to this study with an ESE background, and actively developed my knowledge of the CE field, particularly while spending a semester at the Jubilee Centre for Character and Virtues, a research centre at the University of Birmingham. Although I endeavoured to be reflective and critically subjective, to be open and responsive to the emerging data, and to avoid imposing ideas on research participants, nevertheless my interpretations will reflect my stance and background. However, it is hoped that the description of methods and presentation of data and discussion of findings will allow readers to make their own interpretations.

The research briefly touched on ecofeminism and indigenous sustainable wisdom/knowledge. These are areas that it would have been interesting to explore more deeply. Although it wasn't the focus of this research, it would be worthwhile to explore ESE-CE integration regarding intersection with other issues and educations e.g. social justice particularly eco-justice; human rights; race; and gender.

6.3 Reflections on the research process

The writing of this thesis has been only one aspect of my journey towards gaining a doctorate. The past eight years I have been a researcher-in-training. Not only have I learnt about carrying out research and the challenges and rewards that involves, but I have also experienced what it is to be an academic: to collaborate with others within and outside my field, both nationally and internationally; to go through the publication process; to work on multiple projects simultaneously; to juggle teaching responsibilities alongside research; to become part of an international research network; to share my ideas and listen to other's ideas at conferences and in group research projects; and to become part of a community of fellow researchers and educators at the University of Iceland. I feel grateful and privileged for having had these experiences.

In terms of the thesis, and the doctoral research as a whole, I feel I have accomplished what I set out to do, though there were some twists and turns along the way. This thesis aimed to explore what insights the field of CE might offer into teaching the values aspect of ESE. Looking back at my PhD application proposal, my early research questions were broader, and less focussed. Part of my research journey has involved learning the importance of reflection, flexibility, and revision. My research questions, and thus my research became more honed and defined throughout the doctoral study. Two of the three studies that comprise this thesis were developed 'along the way', in response to the changes in emphasis of the research questions, but also as I collaborated with others (Study 1) or discovered interesting methods I could apply (Study 3). I feel this has been a positive, though not necessarily easy, aspect of my research journey, making my research and thesis stronger.

There were three main challenges I experienced during the writing of this thesis. Firstly, in the early stages I struggled to find a research 'paradigm'. Coming from a biology background, this was something that I had never really considered before, being quietly ushered into a positivist paradigm during my BSc. Being that my research explores new ground, and is also interdisciplinary, there was no obvious choice of paradigm, no path of others before me to follow. It didn't help that pragmatism is often absent from overviews of the different paradigms, though eventually I found the right fit. Pragmatism is apt for interdisciplinary research and resonates with interdisciplinarity as a concept. Pragmatism allowed me to focus on the research question(s) and use the best tools (methods) for the job.

Secondly, there was the challenge of learning a whole new field of research (in addition to expanding my existing knowledge of the ESE field). This is perhaps not uncommon in doctoral research. However, CE, with its main foundations in philosophy and psychology meant a whole new world in terms of, not only research, but approach. My time spent at Birmingham University in the UK, collaborating with Kristján Kristjánsson (and also working with other colleagues at Birmingham on another virtue project, see Gulliford, Morgan & Jordan, 2020), was a steep learning curve, but a rewarding and influential passage. 'Develop adequacy in each relevant discipline' is the fifth step of the IRP, and somewhat understates an intricate and involved process, but also represents a crucial stage in interdisciplinary research.

Thirdly, designing a research approach around three different studies, each with different approaches and methods was a challenge, but also a gratifying aspect of this research. The methods used allowed me to explore the research question from different angles, which I consider a strength of this thesis. I feel becoming competent in three different methods (philosophical inquiry, case study, and Delphi study), as well as integrating those different data sets into a coherent whole, has given me a solid foundation in terms of methodological skills to put towards future research.

As mentioned at the beginning of this reflection, I see myself, during these past eight years, as being a researcher-in-training. This written thesis represents a coming together of the ideas, choices, methods, paradigm searching, literature, data, participant contributions, analysis, reviewer comments, conclusions, re-thinking and re-writing, as well as the collaborations, conversations, collegial feedback, friendships, reflections, and learning that have been part of the journey from new applicant to doctor.

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Article 1

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Sustainability, virtue ethics, and the virtue of harmony with nature

Karen Jordan[a]* and Kristján Kristjánsson[b]

[a]*School of Education, University of Iceland, Reykjavík, Iceland;* [b]*Jubilee Centre for Character and Virtues, School of Education, University of Birmingham, Birmingham, UK*

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This article argues that the dominant sustainable development approach fails to acknowledge the interconnectedness and interrelatedness of social and environmental issues, and that sustainability requires a 'transformational' approach, involving a fundamental change in how humans relate to each other and to nature. The authors propose that virtue ethics, grounded in Aristotle's *Nicomachean Ethics*, provides a framework with which to tackle such a transformation; to redress the human-nature relationship and help foster a more ecological perspective; to facilitate a more holistic and integrative view of sustainability; and to explore questions of how to live and flourish within a more sustainable world. Beginning with an overview of virtue ethics and critique of current approaches in environmental virtue ethics, this article proposes a new virtue, 'harmony with nature', that addresses the interconnectedness of our relationship with nature. This is followed by a proposal for the re-visioning of human flourishing as being necessarily situated within nature. The article concludes with some of the implications of a virtue ethics approach to sustainability, and the new virtue, for both sustainability education and moral education.

Keywords: sustainability; environmental virtue ethics; sustainability education; education for sustainable development, character education

Introduction

Over the course of the UN Decade of Education for Sustainable Development (DESD 2005–2014), there has been a swell in Education for Sustainable Development (ESD) initiatives, programmes and practices (see UNESCO 2016). However, it has been argued that the majority of ESD approaches fail to adequately address the key issue of the human-nature relationship, of humanity's place in the world in relation to nature, or to tackle questions regarding human flourishing as situated within the larger ecological system (see Bonnett 2007, 707–709). Linked to these criticisms are arguments that ESD has failed to sufficiently challenge the reductionist worldview and instrumental view of nature advocated by the prevailing neoliberal capitalist agenda (Huckle and Wals 2015; Kretz 2014; Sterling 2001).

Sustainable development is a highly contested concept with differing definitions and opinions regarding what is to be sustained e.g. ecosystems, natural resources, or culture; and what is to be developed e.g. equity, economic wealth, or social justice (Kates, Parris, and Leiserowitz 2005; see also Bonnett 2004; Hopwood, Mellor, and

*Corresponding author. Email: karen@hi.is

O'Brien 2005). It can also be defined through goals, indicators, values or practice, or a combination thereof (Kates, Parris, and Leiserowitz 2005).

To provide an overview of approaches, Hopwood, Mellor, and O'Brien (2005) classified the range of views within the sustainable development debate according to 'three broad views on the nature of the changes necessary in society's political and economic structures and human-environment relationships to achieve sustainable development' (Hopwood, Mellor, and O'Brien 2005, 12):

- Supporters of the 'status quo' approach hold lower levels of concern for human wellbeing and equality, and the environment than the other approaches. They believe that sustainable development can be achieved within present social and economic structures and that 'adjustments can be made without any fundamental changes to society' (Hopwood, Mellor, and O'Brien 2005, 13). Development is identified with economic growth. 'It is assumed that the existing governmental and commercial systems can be nudged towards improvements with use of management techniques such as EIA (Environmental Impact Assessment) … or cost/benefit analysis' (15). Examples include Forum for the Future, EU policy.
- Those who take the 'reform' approach hold mid-levels of concern for equality and the environment compared to the other approaches. They recognise that sustainable development requires major reform of present social and economic structures, but 'they generally do not locate the root of the problem in the nature of present society, but in imbalances and a lack of knowledge and information' (Hopwood, Mellor, and O'Brien 2005, 16). Reformers focus on 'technology, good science and information, modifications to the market and reform of government' (17). Examples include 'Green economists' and the 'Brundtland report'.
- Those that argue for a 'transformation' approach hold high levels of concern for both equality and the environment. Supports of this approach 'see mounting problems in the environment and society as rooted in fundamental features of society today and how humans interrelate and relate with the environment' (Hopwood, Mellor, and O'Brien 2005, 21). 'Reform is not enough as many of the problems are viewed as being located within the very economic and power structures of society because they are not primarily concerned with human well-being or environmental sustainability' (ibid.). Examples include ecofeminists, ecosocialists, and the indigenous/Zapatista uprising in Chiapas, Mexico.

At present the sustainable development discourse, and subsequent policy, is dominated by the status quo view and in many cases has been used to justify 'business as usual' (Hopwood, Mellor, and O'Brien 2005; see also Ehrenfeld 2005). Bonnett argues that 'Brundtland-type'[1] sustainable development approaches 'reflect highly anthropocentric and economic motives that lead to nature being seen as essentially a *resource*, an object to be … exploited' (2007, 710). Hopwood, Mellor and O'Brian (2005, 31) conclude that the status quo approach is inadequate to address sustainable development, as it facilitates 'trade-offs' between environmental and social issues, and thus perpetuates a flawed 'conceptual divide between the environment and humanity' (see also Molles 2010) that fails to acknowledge 'that humanity is dependent on the environment, with society existing within, and dependent on, the

environment and the economy exists within society' (Hopwood, Mellor, and O'Brien 2005, 29).

Ehrenfeld (2005, 23) argues that thus far 'virtually all efforts to produce sustainable development have been little more than Band-Aids' that fail to address the root causes of environmental degradation and social inequality. Bonnett refers to these root causes as 'underlying motives … that are inherent in our most fundamental ways of thinking about ourselves and the world' (2004, 135), such as a sense of mastery over nature and the false assumption 'that we can somehow 'manage' nature on an increasingly grand scale' (2007, 711; see also Orr 2004).

Sterling (2001, 23) comments that 'arguably, the root of the 'world problematique' lies in a crisis of perception; of the way we see the world' (see also Orr 2004). The dominant mechanistic and instrumentalist worldview, which divides the world into humans/nature, local/global, present/future, cause/effect and categorises issues as either 'environmental', 'social', or 'economic' 'belies the essentially unbroken nature of reality' (Sterling 2001, 16; see also Warren 1990/2001). Similarly, Ehrenfeld (2005, 24) argues that the causes of our 'unsustainability' stem from values and beliefs based on a mechanistic view of the world that fails to acknowledge that 'we are clearly part of an interconnected and interdependent system'. Sterling (2001) explains that there needs to be a shift from a dualistic, reductive, mechanistic worldview to an ecological worldview that 'emphasises relationship' (16), and is 'integrative, holistic, systemic, and connective' (23).

Ehrenfeld and Hoffman (2013, 4) state 'sustainability takes a movement to re-examine who we are, why we are here, and how we are connected to everything around us … any change that is short of that scale will not solve the problems we face'. In short, sustainable development requires a transformational approach, involving a fundamental change in how humans relate to each other and to the environment (Hopwood, Mellor, and O'Brien 2005).

How to facilitate such a transformation? This article will argue that virtue ethics, harking back to Aristotle's *Nicomachean Ethics*, is an ideal framework with which to tackle such a transformation; to redress the human-nature relationship and help foster a more ecological perspective; to facilitate a more holistic and integrative view of sustainability[2]; and to explore questions of how to live and flourish within a more sustainable world.

While by no means the first article to take a virtue ethical approach to sustainability (see e.g. Chen 2012; Hursthouse 2007; Norton and Thompson 2014; Sandler 2006; Treanor 2014; York and Becker 2012), it will be argued below that previous attempts at giving sustainability a virtue ethical grounding have either failed to fully address the underlying basis of our unsustainability, that is, a human-nature relationship and worldview, which fails to encompass interconnectedness and the interrelatedness of environmental and social issues; or they have not extended the implications of such a conception to include a more holistic view of human flourishing as necessarily situated within nature. The implications of these arguments for both the concept of environmental virtue and the concept of human flourishing will be addressed.

Beginning with a brief overview of virtue ethics, the advantages of a virtue ethical approach to sustainability are then explained in more detail and in comparison to deontology and consequentialism in particular. A particular reference is made to the capacity of virtue ethics to adjudicate complex problems with the aid of the integrative meta-virtue of *phronesis*. The limitations of existing approaches to

environmental virtue ethics (EVE) are then discussed in the section 'Environmental Virtue Ethics', before the article proposes a new virtue, 'harmony with nature', that addresses our relationship with nature and encompasses the idea of holistic thinking. This discussion is, then, followed in the section 'Human flourishing in harmony with nature', by a proposal for the re-visioning of human flourishing as being necessarily situated within ecological limits. The article concludes in the section 'Fostering harmony with nature – virtue ethics and sustainability education' with an exploration of some of the ramifications of the new virtue for education, in general, and both character education and sustainability education, in particular. At the end of the article, it is hoped that readers will have grasped the relevance of a virtue ethical approach to sustainability that offers a novel take on moral theoretical issues that have so far, in our view, not been addressed satisfactorily in the sustainability literature.

The uniqueness of virtue ethics

Before explaining the need for adding a 'new' virtue to traditional virtue ethical repertoires, it will be instructive to briefly rehearse some of the standard features of a virtue ethical approach to moral theory.

Ethics is concerned with the morality of human conduct and character, and moral theories typically offer us both an account of moral value and so-called normative ethics as methods of determining a moral course of acting and being. Virtue ethics is one of the three main current approaches to normative ethics, the other two being deontology (e.g. Kantianism), emphasising rules and duties, and consequentialism, emphasising beneficial outcomes, which in the case of the most common consequentialist theory, utilitarianism, is the maximisation of wellbeing (understood either subjectively, objectively or both) (Hursthouse 1999). Virtue ethics, in contrast, approaches the morality of human conduct by emphasising the virtues needed for the development of moral character. The virtues (*aretē*) are seen as multi-component traits of character, and good character is in turn seen as constitutive of – rather than simply conducive to – human flourishing (Aristotle 1985, 44 [1106b15–1107a5], 19 [1098b20–25]).

In the *Nicomachean Ethics*, Aristotle proposes a theory of happiness (*eudaimonia*) – which is better translated as 'human flourishing' since it implies more than mere contentment or pleasure (see for example Foot 2001) – as the ultimate good and ultimate end or goal (*telos*) of human beings (Kristjánsson 2007). Irwin (1999, xvi) explains:

> In Aristotle's view, rational agents necessarily choose and deliberate with a view to their ultimate good, which is happiness; it is the ultimate end, since we want it for its own sake, and we want other things for its sake.

By ultimate end or goal, Aristotle meant that although we may aim for other ends, these ends are sought in the pursuit of our flourishing.

Aristotle then sought to explain in detail what human flourishing consists of. He argued that *eudaimonia* is 'the soul's activity that expresses virtue' (Aristotle 1985, 17 [1098a12–16]). In simple terms, human flourishing entails human activity – including our actions as well as our reasoning and our feelings, desires and impulses – that expresses excellence (virtue) (MacIntyre 1998/2002; Irwin 1985). Aristotle divides the virtues into the intellectual virtues (specifically to do with reasoning and thinking) such as wisdom and prudence (*phronesis*), and the moral virtues (activities

other than reasoning) such as temperance or courage (MacIntyre 1998/2002). As such 'Aristotle's *eudaimonia* is a moralised notion; it is impossible to achieve *eudaimonia* without being morally good – without actualizing the moral virtues' (Kristjánsson 2007, 15).

Let us now explore in more detail what the virtues are. Examples of virtues are honesty, compassion and justice – terms we are all familiar with. However, laypeople's typical usage and meaning are likely to differ somewhat from that of virtue ethics. A virtue, on the academic understanding, does not only refer to actions, for instance the act (or action tendency) of being honest. A sense of the deeper meaning of virtue, upheld by virtue ethics, is preserved in the familiar phrase 'patience is a virtue'. When using this phrase, we are not just saying 'you should be patient', we are also implying that patience is something inherently 'good', and even that it is something that needs to be experienced, practiced, and takes effort. The nature of the virtue of patience thus entails not just the act of being patient, but also the prototypical thinking and perception associated with patience, and the feelings, emotions, and reactions associated with it. In other words, the virtue of patience is comprised of various components, forming a dispositional cluster, such as that of perceiving the need for patience, experiencing patience or 'feeling' it on a regular basis, as well as acting patiently and conducting one's life in a patient manner – indicating a stable and robust underlying trait of character. As Hursthouse explains it, virtue is concerned 'with emotions and emotional reactions, choices, values, desires, perceptions, attitudes, interests, expectations and sensibilities. To possess a virtue is to be a certain sort of person with a certain complex mindset' (Hursthouse 2012, 1). Or to put it in Aristotle's own terms, the virtuous person perceives, feels and does the right things consistently at the right times, for the right reasons and in the right proportion, neither excessively nor deficiently (Aristotle 1985, 44 [1106b21–29]).

A characteristic feature of virtue ethics – as distinct from standard deontological and consequentialist theories – is its essential developmental and educational focus. For Aristotle, knowing what is good is ethically useless unless it is put into action, and it will not be put into action unless the agent has received sustained training in doing so (Aristotle 1985, 40 [1105b5–15]). More precisely, regarding moral inquiry in general, its purpose 'is not to know what virtue is, but to become good, since otherwise the inquiry would be of no benefit to us' (Aristotle 1985, 35 [1103b27–29]). Virtue ethics is thus as much about development towards virtue as it is about virtue itself, and character education – the educational incarnation of virtue ethics – is an integral part of the underlying moral theory rather than a contingent application of it.

As 'patience is a virtue' implies, to be virtuous is an on-going endeavour; it is a way of acting, thinking and feeling – or, more adequately put, a way of being that is gradually being developed through the purposeful cultivation and maintained practice of the virtue. It is precisely this way of *coming to be* a certain kind of person – within the constraints of one's personal and social circumstance – that enables human flourishing and the good life, according to a virtue ethical model.

When exploring the concept of virtue, Aristotle relates the virtues to the vices in order to provide guidance for action and feeling (Aristotle 1985, 36 [1104a12–27]). Although often thought of as the diametrical opposites of the virtues, the vices are more accurately described, in a virtue ethical model, as being 'excesses' or 'deficiencies' in virtue. For example, if courage is a virtue, then cowardice will be the 'deficient vice' and 'foolhardiness' or 'rashness' the 'excessive' vice (Aristotle 1985, 36

[1104a19–23]). The virtue of courage can thus be seen as the 'golden mean' between the two vices, though in reality virtues may often not be exactly at the centre between two extremes (Aristotle 1985, 50 [1109a1–10]). For example, the virtue of honesty may be closer to 'rigid honesty' (insisting on telling the truth even when it can cause harm) than 'dishonesty'.[3]

Another important feature of virtue ethics is its reliance on the intellectual virtue of *phronesis* – which can be translated as 'practical wisdom' or 'prudence' or simply thought of as 'good sense' – to adjudicate potential virtue conflicts. Practical wisdom allows us to determine the 'golden mean' in particular circumstances, and it guides us in particular when we are faced with difficult, complex or entirely new dilemmas (Aristotle 1985, 148–172 [1138b20–1145a13], in particular 153–155 [1140a25–1140b25]). Such dilemmas may, for example, involve the conflicting demands of virtues such as justice and compassion. Practical wisdom enables us to determine what the right reaction or action is in the particular circumstances, and in accordance with the path towards human flourishing (Aristotle 1985, 154 [1140b4–6], see also Hursthouse 2012). Practical wisdom, as the name suggests, is something that comes with experience, although it is also informed by the general theory of what flourishing consists in. More will be said about *phronesis* in the context of EVE in the sections 'Environmental Virtue Ethics' and 'Human flourishing in harmony with nature', where the overarching idea of human flourishing will also be subjected to scrutiny.

Advantages of a virtue ethics approach to sustainability

It is beyond the scope of this article to provide a thorough comparison of the virtue ethical approach to the environment with those of deontology and consequentialism, especially since that has already been achieved elsewhere.[4] We wish, however, to highlight the major advantages of a virtue ethics approach to sustainability specifically.

Firstly, virtue ethics is better placed to consider sustainability as a *way of life*, a concept related to flourishing, and to situate our fundamental relationship with nature within that concept of flourishing. Treanor states that:

> Our various environmental crises are material and ecological, and they are economic and political, but they are also existential and ethical. They are about what it means to live as a human – understanding our place, possibilities, and limitations – in the world we've been given, along with all the other beings that inhabit it. (Treanor 2014, 19–20)

A virtue ethics approach entails an outlook that asks questions about what it means to live well. By considering what constitutes human flourishing or the good life, and asking how humans should live accordingly, virtue ethics and its subfield of EVE are well placed to address sustainability as a concept, a developing moral aspiration and a way of living. Bonnett (2002, 12) asks:

> What constitutes a right relationship with nature? What should be our basic stance towards the natural environment? … [T]his not only raises a set of questions about basic understandings of, and motives towards, nature, but also about human identity and flourishing which are also, of course, implicit in any proper understanding of sustainable development.

Bonnett (2007, 720) further argues that by characterising, and developing in life, what should count as a right relationship with nature, a fuller understanding of what truly should count as human flourishing is thus also developed.

Deontology and consequentialism aim to provide practical moral guidance through either rules, in the case of the former, or trying to maximise good consequences, for example wellbeing, in the case of the latter. The overall focus is on creating guidelines for *right action*, rather than developing a sense of what constitutes human flourishing (Hursthouse 2012). Although deontological and consequentialist approaches would consider sustainable actions in terms of what is 'right' or what would maximise wellbeing, the deeper, more fundamental questions of human existence on earth, in terms of how and what it means to flourish within the wider ecological environment are not a central concern.

Secondly, sustainability can be seen as 'a positive and enriching element of human life … not a restriction but a natural part of personal development and happiness' (York and Becker 2012, 6). Similarly, Treanor (2014, 22) states:

> … virtue ethics frames environmentalism in terms of flourishing rather than sacrifice and in doing so makes many of the necessary behavioural changes attractive rather than onerous.

As we explained in the previous section, according to virtue ethics, the practice of the virtues constitutes human flourishing (*eudaimonia*). By striving to live a virtuous life, people are treading the path towards wellbeing and a flourishing life. For Aristotle, virtuous activity 'is not only conducive to an independently sought end of *eudaimonia*, but is part of that end' (Kristjansson 2013, 179). Because virtuous activity can be viewed as 'the actualisation of our true "ergon" or functional essence as human beings' (ibid.), it contributes to a sense of contentment and fulfilment through feelings which nowadays are characterised as 'flow' (see Kristjansson 2013, 177–181; cf. Aristotle 1985, 287 [1178a5–7]). Within a virtue ethical framework, sustainability can thus be viewed as a means to flourish as a human being, rather than be seen as a set of restrictive or prohibitive regulations. We will return to the idea of human flourishing below in the section 'Human flourishing in harmony with nature'.

Thirdly, virtue ethic theory which suggests that a more deliberate and conscious attention to virtues throughout everyday life will lead to more virtuous behaviour may link to a growing body of research in social psychology supporting the theory that values are not only abstract ideals but also motivators that shape people's thoughts and attitudes, as well as guide their actions and behaviour in certain distinct ways (see Schwartz et al. 2012). There appear to be notable similarities between Schwartz's (1994, 21) definition of values and the virtues. The fact that values are considered trans-situational, they act as guiding principles, they can motivate action – 'giving it direction and emotional intensity' – and that they function as standards for both judging and justifying action, corresponds well to the different components of virtues. Intrinsic values, values that possess inherent worth, such as honesty, compassion, loyalty, forgiveness, justice, equality, true friendship, etc., bear a strong resemblance to the virtues. Prioritising intrinsic values appears to have a notable effect on people's attitudes and behaviours related to social and environmental issues, for example people who prioritise intrinsic values have been found to exhibit more ecological attitudes and behaviours (Kasser 2011).

This interplay between philosophical theory and psychological evidence notwithstanding, it must be acknowledged that values are different constructs to virtues. Most psychologists remain shy of virtue talk, as virtues are generally not considered to fall within the purview of psychology. However, this may be beginning to change however, as both fields gain ground and cross-fertilisation between them increases, for example there is a *Virtue Ethics and Value Instantiation* research project currently running at Cardiff University (see also Fowers 2005).

Fourthly, virtue ethics provides a framework to deal with a myriad of sustainability issues. Since virtues are trans-situational, being applicable across vastly different situations, they are easily adapted to new areas of experience, such as environmental or sustainability issues. Many of the principles considered integral to sustainability, such as equality, freedom, justice, compassion, and non-violence are already considered virtues, and promoted in virtue ethics, or character education.

EVE, a subset of virtue ethics, has typically proposed the application of traditional virtues, such as compassion, temperance, and benevolence, to environmental and sustainability issues. Deontology and consequentialism are far more rigid, and application to new areas such as the environment often requires extensive exploration into, for example, what duties humans have towards different natural elements, or whether their environmental wellbeing (however that may be defined) should be considered within the rubric of 'utility' or not. The fluidity of Aristotelian virtue ethics also means that the virtues can be applied in vastly different contexts – something that links to the placed-based, context-specific nature of sustainability. The very nature of sustainability means that in practice it will vary with location and time. Each individual and society will need to determine how to balance the conflicting needs, as well as the conflicting virtues, specific to their local society and environment. However, unlike the feminist related ethic of care approach (we refer here to the stand alone approach rather than as a emphasis within virtue ethics), which seeks to foster relationships of care, virtue ethics still provides a normative framework, in other words definite virtues specific to spheres of experience, as well as acknowledging and seeking to address virtue conflict and complexity of issues through the meta-virtue of *phronesis* or practical wisdom.

Fifthly, *phronesis* or practical wisdom (see the section 'The uniqueness of virtue ethics' above) is essential when it comes to adjudicating the novel and complex problems presented by sustainability. Virtue ethics is often criticised for not providing definite rules to guide behaviour. However, in the field of sustainability, and arguably in the complexity of life generally where multiple-competing needs and 'wicked'[5] problems are commonplace, universal rules are often unable to reflect the intricacy of the issues. Rules can be useful in terms of acting as moral deliberation shortcuts in simple cases, but they are problematic when dealing with complex issues. Utilitarianism in particular is highly problematic when it comes to sustainability, since consequences can often be extended to future generations, or across large expanses of land, making it extremely difficult to determine exactly what action would maximise future wellbeing (and *whose* wellbeing). Additionally, the intractable debate of whether animals, all livings things, or ecosystems fall under the remit of utility continues. Acknowledging the complexity of many environmental issues, Treanor (2014, 12) states:

> … any contemporary ethic that takes seriously environmental issues is forced to concede that complex, difficult, and novel ethical dilemmas are precisely the sorts of

> situations with which we will be increasingly confronted as phenomena like climate change and peak oil play out.

As explained in the section 'The uniqueness of virtue ethics' above, *phronesis* is the practical wisdom gained through experience that ideally allows a moral agent to determine the virtuous action or reaction, particularly when faced with a complex or novel situation. Although based on experience, *phronesis* is inevitably informed by the concept of flourishing, which we will return to in the section 'Human flourishing in harmony with nature' below.

Sixthly, the education, cultivation and maintained practice of virtue are integral to virtue ethics, as explained above. York and Becker (2012, 7) argue that:

> … sustainability is not just a question of proper theoretical knowledge (e.g. scientific knowledge about the mechanisms of certain ecosystems), but also a question of proper action, and that there is a gap between both. Theoretical knowledge may be an important prerequisite, but it will not directly result in motivation to act properly and in accordance with this knowledge. From a virtue ethics perspective, proper action requires the cultivation of respective virtues …

Virtue ethics acknowledges that knowledge of the virtues alone (or what we could call mere 'virtue literacy') does not necessarily result in a person acting, reacting, thinking or perceiving in a virtuous way. People's concerns are often not reflected in their actions – rational thought alone is a poor predictor of behaviour (Narvaez 2014). Whereas deontological and consequentialist approaches rely primarily upon rational thought to determine behaviour, virtue ethics provides a framework with which to purposefully develop more psychologically deep-rooted affective characteristics that are conducive to flourishing. As such, virtue ethics acknowledges that developing the virtues, and therefore producing change at both the individual and societal level through emotional sensitisation, takes time and practice. The development over time of the multiple components of virtue – reasoning, perception, emotion and action – constitute the motivation for, and the habit of, virtuous action (see Narvaez 2014; Hursthouse 1999 in relation to the importance of emotion).

As discussed above, *phronesis* is an essential part of virtue ethics, and therefore development of practical wisdom is as much a part of an education in the virtues as cultivation of the virtues themselves – the two in fact are inextricably linked. The ability to learn from experience and to apply that experience in new and unique situations is an essential component of any education for sustainability. Similarly, the ability of individuals and societies to consider, and their practice of asking, fundamental questions regarding humanity's existence, and means of flourishing, within the wider ecological system will become more necessary as sustainability issues mount. These integral elements of virtue ethics clearly link to the on-going sustainability debate and the 'excellences' needed to address sustainability issues.

Regarding the human-nature relationship, virtue ethics, being also concerned with feelings, is better placed than deontological or consequentialist approaches to tackle the issue of a more affective-based connection to nature and encouragement of a less anthropocentric view (Carr 2004; see also Cafaro 2001). The fostering of a deep connection with nature indicates a change in character rather than principle (Carr 2004, 225). More will be said on the importance of emotions in relation to nature in the following sections.

We will now address the subfield of virtue ethics, EVE, and argue that, thus far, it has failed to adequately address the interrelatedness of environmental and social issues.

Environmental virtue ethics

Around the turn of the millennium, EVE, a subfield of virtue ethics, began to take shape as an alternative means of addressing environmental issues through the cultivation of virtues relating to the environment.[6] As outlined by Hursthouse (2007, 155), EVE proposes the application of traditional virtues such as compassion, temperance, benevolence, etc., to the 'new field of our relations with nature' (see also Sandler 2006). Additionally, there have been arguments made for the creation of new virtues that deal explicitly with our relationship with nature, e.g. Hursthouse's (2007) 'being rightly oriented to nature', York and Becker's (2012) 'attentiveness', 'respect for' and 'care of' nature, and Treanor's (2014) outlining of 'simplicity'.

However, thus far EVE has failed to adequately address the interrelatedness of environmental and social issues. In this sense, although many approaches encourage a high level of concern for the environment, they fail to promote a truly 'transformatory approach' to sustainability, since they do not explicitly connect environmental issues with social issues (Hopwood, Mellor, and O'Brien 2005). In that sense, a core insight of Aristotelian virtue theory – that virtues are not isolated and domain-specific but 'hunt in packs' – is lost.

Many environmental virtue ethicists are well aware of the interrelatedness of issues, for example Sandler (2006, 259) links peace and opposition to violent conflict to environmental issues:

> … since warfare and violent conflict compromise the availability of basic environmental goods. They often involve the destruction of wilderness, wildlife and agricultural lands … Growing sources of international and intranational tensions are scarce environmental resources and environmental refugees.

However, despite this realisation, Sandler (2006) creates a 'typology of environmental virtue' whereby virtues are categorised according to whether they apply to the 'environmental sphere'. Sandler reframes familiar virtues, such as frugality, compassion, and humility, within an environmental context. Using this approach, a human characteristic (or virtue) can be categorised as an environmental virtue due to a variety of different reasons or outcomes, for example, because it leads to the maintenance of a healthy environment, or because it facilitates a beneficial relationship with an environmental entity. The problem here is that the spheres of environment and society are still considered somewhat independent – certain virtues apply to the environmental sphere, but others, presumably, do not. This approach fails to depict society, and indeed individuals, as existing as a nested system (Capra 2005; Sterling 2001) within the environment, whereby individual virtues are enacted within the larger sphere of society and in turn the larger sphere of the environment (see Nuyen 2008 in relation to Confucian ethics, who asserts 'the social is embedded in the natural' (195)).

Similarly, in *Emplotting Virtue: A Narrative Approach to Environmental Virtue Ethics*, Treanor (2014, 55) explains:

> … consider the three broad areas of ethical concern: the self, others, and the environment. Although we can distinguish between individual virtues, social virtues,

> and environmental virtues – or individual flourishing, social flourishing, and environmental flourishing – doing so can only be accomplished by an abstraction that is illusory and potentially misleading. In reality – that is, in the context of actual lived human lives – all three of these areas are intimately related and intertwined.

However, he then goes on to offer an alternative typology of virtue that categorises virtues as contributing to predominantly individual, societal or environmental flourishing. Treanor's examples of individual, societal and environmental virtues are temperance, courtesy, and holistic thinking respectively. Those familiar with sustainability models will recognise the similarities between Treanor's model of virtue, with the overlapping circle (or spheres) of individual, societal and environmental flourishing, and the model of what is now considered 'weak' sustainability – which is promoted by the status quo approach to sustainability – whereby economic, societal, and environmental sustainability are represented by overlapping circles (Hopwood, Mellor, and O'Brien 2005). The problem with both these models is that they fail to acknowledge that the individual exists within society, and society exists within the environment (ibid.). This is represented in the 'strong' model of sustainability, which depicts concentric circles, or 'nesting systems' with the economy nested within society, and society nested within the environment. This is the model aligned with a transformatory approach to sustainability. Sterling argues that 'Socio-economic systems must be regarded as subsystems of the encompassing biophysical system' (2001, 32).

Both Treanor and Sandler separate out traditional and new virtues into different spheres, or categories. But we would argue that such separation is part of what the concept of sustainability is trying to correct as misleading or even arbitrary. All spheres interact, either directly or indirectly. Social issues impact on the environment, individual issues impact on both society and the environment, and the environment impacts both individuals and society. Social breakdown leads to environmental destruction, for example in war, or due to a lack of resource management; and lack of environmental health leads to social unrest, for example a lack of water or food often leads to social instability. Individuals and their interactions are situated within these dynamic systems, and seemingly unrelated actions and reactions can, particularly collectively, impact on the other spheres.

Treanor (2014) later argues that it is helpful to think of the spheres of application when confronted with moral dilemmas, and that the limited inclusion of environmental issues in virtue ethics, particularly within academia, warrants a specific, separate, focus (56–57). Clearly a focus on environmental issues in virtue ethics is to be encouraged, however the separation of environmental virtues and flourishing from individual and societal virtues and flourishing runs the risk of reinforcing the dominant, non-holistic view of sustainability, and fails to offer a truly transformatory approach.

Additionally, if EVE is to become more than just a fortuitous application of virtue ethics in a separate, limited sphere (such as, say, virtue ethics within engineering), and is to become an essential component of the general virtue ethics approach itself, then it needs to take a more explicitly holistic approach to both sustainability and virtue ethics.

In many ways, these criticisms parallel those made by ecofeminism against the deep ecology movement. While the deep ecology approach offers a profound change in the humanity-nature relationship, calling for a recognition of the intrinsic value or inherent worth of non-human nature (Naess 1989/2001), it has been criticised for

failing to adequately address 'the connections between environmental issues and problems and human social and political reality, or the "social" sources of "ecological" realities' (Cuomo 1998/2001, 77). Similarly, while Hopwood, Mellor and O'Brian (2005, 22) consider deep ecology transformatory, in that it is highly ecocentric and advocates a fundamental change in how humans relate to the environment, they do not consider it a transformatory approach to *sustainable development* since, as an approach, it is primarily concerned with the environment, and social and equality issues are only briefly mentioned. From a virtue ethical perspective, this approach neglects the essential 'unity of the virtues': that virtues are instruments in the same 'orchestra' where *phronesis* is the conductor (Irwin 1999, 254).

EVE, and subsequently any virtue in relation to the human-nature relationship, needs to explicitly acknowledge that the environment and society are interrelated, and adhere to a nested system model of sustainability – thus offering a transformatory approach. As stated in the introduction, this will require a change in perception and worldview.

A new way of thinking

With the above in mind, we wish to propose a new virtue, 'harmony with nature', that directly concerns the human-nature relationship, but that also aims to foster a 'new way of seeing the world and thinking – in terms of relationships, connectedness, and context' (Capra 2005, 20); an ecological way of thinking that is holistic, systemic, and connective (Sterling 2001). We consider this suggestion to be fully in line with Aristotle's own flexible specification of virtue as any medial dispositional reaction, contributing to human flourishing, occurring in a salient, unique domain of human affairs. New circumstances can create new 'salient, unique' domains of this sort; in this case the unprecedented strain put on nature in today's world.

The new virtue, harmony with nature, builds upon Hursthouse's (2007) proposed virtue of 'being rightly oriented to nature', as well as drawing from the field of ecofeminism. In the following section, we will outline Hursthouse's virtue, before we demonstrate how the new virtue expands upon this to incorporate ideas from ecofeminism and sustainability, such as holistic thinking.

'Being rightly oriented to nature'

Hursthouse (2007) proffers the virtue of 'being rightly oriented to nature', drawing on Taylor's (1981/2001) 'respect for nature', which involves sharing a common bond with nature and recognition that humans are members of earth's interconnected web, or community, of life. Hursthouse argues that such an attitude must be recognised in virtue ethical terms since acquiring such a disposition towards nature 'would involve a radical change in one's emotions and perceptions and one's whole way of perceiving and responding to the world, of one's reasons for action and thereby actions' (2007, 163), and as such cannot simply be adopted through a rational process, or simply developed as an add-on to existing virtues, but must be cultivated and habituated as a unique virtue 'beginning in childhood and continued through self-improvement' (2007, 164). She describes how teaching a child to understand, appreciate, care for, and feel wonder for nature begins to shape a particular mindset relating to the natural world (Hursthouse 2007, 164–165).

She suggests that 'being rightly oriented towards nature' involves an:

> … indefinite range of reasons taught for responding, in the broadest sense, to nature, in certain ways. These include, at least, wondering at, looking hard at, finding out more about, rejoicing in, understanding why other people spend their whole lives studying, being anxious to preserve, not dismissing or ignoring or destroying or forgetting or assuming one can always put a price on … everything in the natural world. (Hursthouse 2007, 167)

We wish to draw attention in particular to Hursthouses's mention of wonder, as we feel this is an important component of the human-nature relationship. Wonder and awe are often associated with the realisation or sense of being part of something larger. Awe has been found to involve a 'sense of selfhood as less separate and more interrelated to the larger context of existence' (Bonner and Friedman 2011, 224). It involves awareness of both vastness (complexity and infinity) and connectedness (ibid.). Ivanhoe (1997) explored awe in relation to nature and concluded that the humility produced as a result of wonder counteracts human arrogance towards nature, and warns against the objectification and disenchantment of the world. He also proposed that the feeling of oneness with nature, namely the belief in being part of the larger ecosystem of the earth, helps humans avoid irrational and damaging behaviours, such as ecosystem destruction, as well as offering aesthetic and satisfying feelings (Ivanhoe 1997, 114).

Hursthouse considered wonder such an important component of the human-nature relationship, that she considered '… being rightly disposed with respect to wonder – i.e. being disposed to feel wonder the right way, towards the right objects, for the right reasons, to the right degree, on the right occasions, in the right manner, and to act accordingly' (2007, 162) – could itself count as a virtue. Carson (1965/1998) had previously argued humanity needed to contemplate nature and know a sense of wonder and humility. She urged adults to nurture the childhood sense of fascination and wonder for nature, and that the development of 'feelings' in children is in fact more important than teaching facts, since a sense of wonder would motivate a child to want to learn. However, as Hursthouse admits, wonder is not uniquely concerned with nature, and so she went on to propose the virtue of 'being rightly oriented to nature' that 'incorporates just that part of right wondering which is concerned with recognising the wonders of nature' (2007, 162).

Feelings of awe and wonder are an essential component of any virtue addressing the human-nature relationship. Wonder of the natural world is not only associated with feelings of aesthetic appreciation, rejuvenation, fascination or delight, but as described above, involves being part of something larger than the self, a sense of being part of a complex ecosystem. These emotional elements are integral to the motivational aspects of virtues.

Hursthouse's virtue of 'being rightly oriented towards nature' reflects the myriad aspects of a virtue dealing with the human-nature relationship. This is perhaps why Sandler and Treanor took a category approach. However, it is not uncommon for virtues to be complex. Take justice for example. Justice involves a sense of fairness, the ideas of retribution, dignity and rehabilitation; it involves other virtues such as a sense of deservingness and compassion; as well as the emotions of righteous indignation and anger. In practice, justice in today's world involves in depth knowledge and consideration of a great deal of information. The virtues are developed over time, through purposeful cultivation and habituation. Therefore, their complexity and nuance is learned and developed through life experience, which itself is complex.

We now wish to go about expanding Hursthouse's virtue to include 'holistic thinking' and to accentuate the idea of 'dynamism'. In doing so, we wish to emphasise a holistic and encompassing view of the human-nature relationship, as enacted through individuals and societies, as well as link to the ideas in (living) systems thinking, which Capra (2005, 22) described as 'sustainability in the language of nature'.

The virtue of 'harmony with nature'

To recap, we have argued against EVE accounts that consider virtues to occupy certain discrete spheres. While being logically grounded in a certain domain of human experience, the virtue that we propose to call 'harmony with nature' ideally traverses and encompasses all personal, social and political spheres. Moreover, it involves a broad mindset: a certain way of construing ourselves and the world in which we live.

A virtue that concerns the human-nature relationship must involve an awareness that we, as individuals, exist within a functioning society that exists within nature. We must be aware of the extent of such a relationship. A sustainable relationship with nature involves not just the recognition that we are part of a larger ecosystem, but also a deeper, more complex understanding that nature is inextricably linked to society as a whole, as well as to individuals. A virtue concerning our relationship with nature needs to include the perception and reasoning that nature encompasses all of society, and therefore permeates all aspects of our lives. This realisation and awareness is crucial to sustainability.

Ecofeminism – which likens the 'mastery' approach to the environment (see also Bonnett 2007) to the suppression of women and other minorities – emphasises relationship, connection, and interdependence, and affirms that humans are members of an ecological community, but are also separate entities in some respects (Plumwood 1991; Warren 1990/2001). Kretz (2009) talks of 'open continuity', whereby human identity or self-concept is very much intact, but also acknowledges that 'we are situated in ecologically relevant wholes of which we are a part' (131).

Ecofeminism stresses the need to view environmental issues in relation to social structures and social inequalities. Cuomo (2005, 205) argues that many environmental issues, such as global warming:

> … involve not just human chauvinism, but the relationship among very complex and specific social and ecological phenomena (such as capitalism and science). But nature-centred views that understand humans to be an undifferentiated species, and that therefore focus only on questions about how and why 'humans' do not adequately 'value' nature, cannot ask key questions about the relationships among complex eco-social histories or institutions.

Similarly, many indigenous cultures, for example the Kichwas of Ecuador, incorporate the concept of the individual being part of the community, with that community being both human society and the environment. More will be said about these cultural approaches in the following section on flourishing.

Treanor (2014, 60) describes the importance of holistic thinking, commenting that it 'implies the recognition of interconnectedness and interdependence'. Sterling (2001) argues that the current, dominant way of thinking in Western industrial countries is mechanistic and reductionist – we are more concerned with how individual

parts of a system work than with how they function together as a whole. In relation to sustainability, Sterling explains that, conversely, thinking in terms of the whole system involves 'widening and deepening our boundaries of concern'; recognising 'broader contexts in time and space' and including '"the other" in our thinking and transactions' be that neighbour, community, distant environments and peoples, non-human species or the needs of future generations (Sterling 2001, 53). Sterling (ibid.) also explains that people need 'the disposition and ability to recognise and understand links and patterns of influence between seemingly disparate factors in all areas of life' and the 'disposition and capability to think and act integratively and inclusively'. He explains that 'the key assumption in this approach remains that we need to "see" differently if we are to know and act differently' (Sterling 2001, 52). Holistic or whole systems thinking, then, should be considered a perception component of the virtue of 'harmony with nature', as well as involving thinking and acting based on that perception.

In terms of the action component of the virtue harmony with nature, acts must reflect the concept of sustainability as a non-fixed, changeable, context-specific phenomenon. UNESCO refers to this as a 'dynamic balance' (UNESCO 2003). Ecological systems are in constant flux; therefore sustainability is an on-going process, not a fixed state. It involves adaptability and responding to change. For example, maintaining ecologically sustainable human resource use is necessary, but that level of use will change over time, shifting in response to environmental or social changes such as a change in river flow or the emergence of a new social practice. Virtuous action must be seen as occurring within this 'dynamic system' (Capra 2005; Sterling 2001) – ever-changing, dependent on time and place (see also Hannis 2015). As with sustainability, acting virtuously in relation to nature will be different in different circumstances, in different environments, with different people, and at different times. Kristjánsson (2007, 37) describes 'a dynamic appreciation of the uniqueness of each particular situation'. *Phronesis* is crucial in navigating the application of such a comprehensive virtue, and we will return to the central role *phronesis* plays in our relationship with nature and in sustainability below.

We propose the name of 'harmony with nature' for our new virtue, which better represents holistic thinking and the concept of continual change than previous alternatives, and also emphasises the fact that humans are encompassed by nature. Conversely, 'disharmony with nature', with its negative associations, is a felicitous term to represent emotional reactions often experienced in relation to environmental damage or misuse, for example littering, deforestation, or oil spills, in other words the vice of being disharmonious with nature. A mechanistic, instrumental, non-ecological worldview and thinking, which contribute to such behaviours, would be the *deficient* vice of the virtue 'harmony with nature'. Conversely, an excessive vice, could be the inability to see the world in a mechanistic way at all, in other words, the inability to simplify, or compartmentalise, to think in a linear way, and to adopt instead the mindset of romantic aestheticism towards nature. Like the virtues of honesty, or gratitude, the 'golden mean' is arguably closer to the excessive vice than the deficient vice (Aristotle 1985, 50 [1109a1–10]).

'Harmony with nature' has the advantage of being an internationally recognised and established term to describe a sustainable relationship with nature. In 2009, the United Nations General Assembly (UNGA) initiated international negotiations on the principles of harmony with nature. Member states have called for 'holistic and integrated approaches to sustainable development that will guide humanity to live in

harmony with nature and lead to efforts to restore the health and integrity of the Earth's ecosystems' (UNGA 2013) and have acknowledged that 'devising a new world will require a new relationship with the Earth and with humankind's own existence' (UNGA 2014). In December 2014, the UN General Assembly adopted the sixth resolution on harmony with nature, calling for a more ethically based relationship between humanity and the Earth' (ibid.). Although references to virtue ethics are absent from UN harmony with nature documentation, the call for a more holistic and integrated approach to sustainability, a new relationship with nature, and a rethinking of humankind's existence, can, as shown above, be interpreted through a virtue ethical lens, giving it more theoretical and moral gravitas.

To summarise, what would a person who could be said to possess the virtue of harmony with nature be like? As Hursthouse (2007) points out, it is difficult to imagine in detail what living in harmony with nature would be like, since the prevalent neoliberal society is so oriented towards disharmony. Since we are talking about fundamental changes in human interrelations and the human-nature relationship, and a transformatory approach to sustainability, this is not surprising. However, we can say that such a person would think, perceive, feel, and act in accordance with an ecological worldview, a way of thinking and of seeing the world that recognises the complex network of relationships that surround us, that recognises that we are part of a larger ecological system and that feels wonder and fascination towards that natural world; that acknowledges the interrelatedness of the individual, society, and environment, and that is aware of the ever-changing nature of life and therefore understands the need for continual change in themselves. It is a virtue that is at the same time transpersonal (directed at ideals beyond mere human selfhood) but also firmly grounded in the human life-world and in our relationship with the environment that we inhabit.

Phronesis and harmony with nature

The awareness of the interconnectedness of society and the environment, and the concept of dynamism, as part of the virtue harmony with nature, will inform how the intellectual virtue of *phronesis* guides us, particularly when faced with complex dilemmas or conflicting virtues. Using van Wensveen's example of the virtue of generosity coming into conflict with 'the sustainability of ecosystems' through the gifting of unsustainable goods (2001, 232), if we take harmony with nature as a virtue, then *phronesis* would allow us to recognise that we must balance our generosity with being harmonious with nature. In terms of dynamism, Bonnett (2004, 139) describes how the 'ever-changing countenances of things' requires sustainability thinking to constantly evolve, to 'enable new interpretations [and] apprehend new relationships'

Since harmony with nature will influence our perception of human flourishing as situated within the environment (see 'Human flourishing in harmony with nature' below), being harmonious with nature will be ever-relevant, though likely only poignantly so when it comes into conflict with another virtue.

This is similar to more familiar virtues, such as honesty: it is relevant in most situations to some extent, but it has become so natural, or at least default, in many circumstances that many of us only pay attention to it when it comes into conflict with another virtue, or desire. Harmony with nature is a little different as it is still not part of most people's moral 'autofocus'. However, since *phronesis* guides us

towards human flourishing, if our conception of human flourishing includes the knowledge that such flourishing must occur in harmony with nature, within sustained ecological systems, then *phronesis* will guide us towards such flourishing.

Human flourishing in harmony with nature

Section II of the UN report entitled 'Living Well in Harmony with Nature' (UNGA 2014), introduces the concept of 'living well', which has been gaining popularity over the last 10 years. It is based on the traditions of the indigenous peoples of South America, for example the Ecuadorian Kichwa concept of *sumac kawsay,* meaning a fullness of life within a community, together with other people and nature (UNGA 2014, 4). The UN report references Eduardo Gudynas (2011):

> The term living well includes the classical ideas of quality of life, but with the specific idea that well-being is only possible within a community … the community concept is understood in an expanded sense to include nature. Living well embraces a broad notion of well-being that encompasses harmonious cohabitation with other humans and nature. (UNGA, 2014, 4)

The idea of living well (*Vivir Bien*; 'good life' in Spanish) has also been incorporated into the constitutions of Ecuador (approved in 2008) and Bolivia (approved in 2009) (Gudynas 2011). 'Healthy flourishing of all in harmony with nature' is a key goal in the Ecuadorian 'National Plan for Good Living for the Republic of Ecuador (2009–2013)' (Secretaría Nacional de Planificación y Desarrollo 2010). In the Bolivian constitution, *Vivir Bien* 'is included in the section devoted to the ethical and moral principles describing the values, ends and objectives of the State' and is defined using the *guaraní* ideas of 'harmonious living (*nì andereko*), good life (*teko kavi*), and the path to the noble life (*qhapaj nì an*)' (Gudynas 2011, 442–443). The ideas of *Vivir Bien*, *samac kawsay*, and harmony with nature have obvious links to the virtue ethical concept of *eudaimonia*, or human flourishing, which can also be understood as 'living well'. The concepts of the good life and living-well are of course central to the virtue ethical approach. Although virtue ethics acknowledges that human flourishing must necessarily be situated within a well-ordered society (see Irwin 1999, xxiii), it has thus far typically neglected to incorporate the idea that human flourishing, and societal flourishing, must necessarily be situated within nature.

We would like to propose that virtue ethics, both practically and theoretically, needs to reflect the interconnectedness of society and the environment, in-line with changes in other fields that are responding to the beginnings of a paradigm shift towards a more holistic and ecological view of the world (Sterling 2001; UNGA 2014).

Virtue ethics must interpret human flourishing as situated within society, situated within the environment. This theoretical adjustment can be viewed as representing the transformatory approach to sustainability. Individuals are the moral agents, but the individual enacts the virtues within society, which in turn functions within the larger environment. The virtues are not categorised according to certain spheres of relevance or application, since humans are contained within, and are part of, the larger systems. Human flourishing in harmony with nature will reflect the society and environment of that time and place, be context-specific, and dynamic in nature.

We want to emphasise that, although human activity is situated within environmental limits, since harmony with nature is a virtue rather than a mere restriction upon human behaviours, it can be viewed, as discussed above, as contributing to human flourishing. Living harmoniously with nature will contribute towards our wellbeing (see Hannis 2015).

As already indicated, other environmental virtue ethicists have addressed the need for the virtues to take account of sustainability. Let us finally address van Wensveen's (2001) proposal that ecosystem sustainability should be a criterion for any genuine virtue, in other words 'a genuine virtue includes the goal of ensuring ecosystem sustainability' (233). She argues that 'a genuine virtue includes the goal of ensuring necessary conditions for its cultivation' (ibid.) and that ecosystem sustainability is one of those necessary conditions, being crucial for both human flourishing and survival. Indeed, as Treanor (2014, 60) states: 'no individual or society can flourish in a severely degraded environment'. However, there is a problem with taking a 'criterion-for-virtue' approach to the issue of human flourishing within the wider environment, in that a mere logical criterion does not necessarily furnish an individual, or indeed society, with any specific *motivation*. The fundamental moral salience of virtues is, by contrast, constituted by their capacity to incorporate emotions and, hence, produce motivations (see Narvaez 2014; also Kristjánsson 2007).

van Wensveen's (2001) argument to consider ecosystem sustainability as relevant to every virtue, and therefore each virtuous action, certainly captures the permeability of sustainability into every part of life, but such a dramatic change in perception and feeling surely requires a virtue in itself. As Hursthouse (2007, 163) argues, in reference to Taylor's respect for nature, such an attitude towards nature cannot occur 'through a rational process'. van Wensveen (2001) addresses this motivational concern by stating that since all the virtues are cultivated and habituated over time, the criterion in question can also be included in this cultivation. However, the motivational quality of a virtue is bound up with the thinking, feeling, and perceptive components of that specific virtue (see Narvaez 2014; also Hursthouse 1999, 2007; Kristjánsson 2007). Hursthouse (2007) argues that such a radical change in the way we perceive the world necessitates a change in emotions, perceptions, reasons for actions and thereby actions, and is such a complete transformation of character, that it must be considered, and cultivated, as a unique virtue in itself.

Fostering harmony with nature – virtue ethics and sustainability education

It has been argued above that virtue ethics and the virtue of harmony with nature provide a transformational approach to sustainability. As previously stated, virtue ethics is inherently developmental and educational in focus. We will now explore how we might foster the virtue of harmony with nature, along with the other virtues, in order to address sustainability. This could easily give rise to a separate essay. Although such an essay will need to await another day, some initial considerations are outlined below.

Let us begin by stating that sustainability education needs to embrace the teaching of the virtues, and vice versa.[7] Over the course of the UN DESD (2005–2014), there has been a swell in ESD initiatives, programmes and practices (see UNESCO 2016). Much emphasis has been placed upon developing individuals' critical thinking, creative problem solving, and democratic participation skills – all vital to sustainability. Yet those efforts often fail to address the *motivational* aspect of

behaviour. It is wrong to assume that by developing students' critical reasoning skills, students will 'act morally as a simple consequence of knowing how to act morally, or even of just knowing how to articulate convincing moral judgements' (Kristjánsson 2010, 398). The virtues cannot simply be adopted through intellectual exercises; they must be cultivated and habituated experientially and affectively over time.

Bonnett (2004, 144) similarly criticises the focus on 'action competence' as putting too much faith in rationality, firstly because he questions the ability of students to make rational choices in light of the powerful influences present in a neoliberal society – Kretz (2014) for example talks of the incessant promotion of individualism, consumerism, and competition – and secondly, because he believes 'modern rationality is itself not neutral but expresses certain aspirations towards the world (notably to classify, explain, predict, assess, control, possess and exploit) … such rationality that has led to our current environmental predicament'. Action competence needs to be accompanied by an ethical framework.

Despite the fact that 'development of values' is often mentioned as a key aim in ESD literatures (Bennidict 1991; Breiting, Mayer, and Mogensen 2005; UNESCO 2016), there seems to have been very little focus on the value cultivating aspect of ESD. Although there is a general sense that values play a role in sustainability, in creating sustainable citizens, educators appear unclear on how they should be approached or taught (see Bowden 2013) and often fail to distinguish between virtues and merely cognitively held values.

In recent years, there has been a worldwide resurgence of interest in moral education, in its various guises (Kristjansson 2013). Schools are beginning to recognise that in order to create flourishing individuals and societies, education cannot be based on purely academic aims; instead what is needed is a more holistic education that also addresses the moral character of the students. Despite this increase in moral education, academic boundaries continue to separate sustainability education and moral education, and thus far they have run parallel to each other, without any substantial convergence.

Virtue ethics provides an ideal framework for addressing sustainability. It provides adaptable guiding principles, i.e. the virtues, that can be fostered and enacted to confront a variety of complex, 'wicked problems'. Virtue ethics, and its education counterpart character education, must embrace sustainability by including a new virtue for our relation with nature, such as harmony with nature, and by situating human flourishing and living well within the larger ecological environment.

We will now briefly discuss four approaches where character education and sustainability education can join forces.

School climate & exemplars

The culture of a school, or institution, undoubtedly has an effect on those that attend it. In relation to flourishing, Bonnett (2007, 710) states:

> … in many ways the issue is not primarily one of formal curriculum content as of the general culture of the school (and, of course, society). It is a matter of the underlying versions of human flourishing and the good life that are implicit in the ethos and practices of the school as a community and how they connect with life 'outside'. This ethos both invites direct participation in certain ways of going about the world and conditions the spirit in which the curriculum is taught and received.

Bonnett (2004, 145) talks of institutions providing 'invitations to engage in an orientation that is exhibited as valuable in the thought and action of those with whom they rub shoulders and in the practices of the institutions in which they live'. Essentially, he is saying that institutions, schools or indeed work places, and those within those institutions, need to act as exemplars of sustainability. Exemplars or role models are a central idea within virtue ethics, and school climate is often discussed in relation to sustainability. Virtues can be, and indeed are even if unintentionally, demonstrated by the staff and school, for example by the way they approach issues and practices, but also by their behaviour, and the kinds of behaviour that are deemed acceptable. In terms of the institution as a whole, virtues can also be made explicit, for example the school could make 'equality' the virtue of the month or term, and orientate lessons and assemblies around it. Another approach from character education, would be for the school to adopt a core set of virtues that it wishes to focus on permanently i.e. 'our school values are honesty, integrity, and respect'.

Biesta (2011, 97–98) argues that the 'desire for democracy does not operate at the level of cognition and therefore is not something that can simply be taught. The desire for democracy can, in a sense, only be fuelled'. He asserts that individuals need to learn democracy, and develop their desire for it, through their participation in, and subjective engagement with democracy in 'the contexts and practices that make up their everyday lives, in school, college and university, and in society at large' (Biesta 2011, 6). In this way, individuals will learn to value democracy and desire to act as democratically responsible citizens. These claims could be transferred, *mutatis mutandis*, to sustainability also. Indeed, Biesta's views mirror those held by environment educationists such as Hart (2000).

Experience in nature

Let us return to Hursthouse (2007) who presents a picture of the child who is brought up to be rightly oriented to nature. Hursthouse describes how such a child would have the interconnectedness of nature explained, or rather revealed, to them by parents or teachers, while exploring and experiencing nature and developing a sense of wonder and awe for it. As discussed above, a sense of wonder is crucial to the virtue of harmony with nature and is something that perhaps, as York and Becker (2012) suggest, can only be experienced in a natural environment (see also Bonnett 2004, 145). However, that does not necessarily mean that a city dweller cannot foster the sense that we are part of the larger ecosystem – it is still possible to discover where the city's drinking water comes from, what local factors affect the weather, and to find local wildlife, however limited that may be.[8] However, as Orr explains, sustainability entails 'reweaving the local ecology into the fabric of the economy and life patterns … restoring local culture and our ties to local places' (2004, 147). A first step towards this, perhaps, is to maximise purposefully reflective time spent in natural environments, to seek out nature when we are confined to more urban environments, and to raise awareness of the links between our everyday lives and the wider environment. In support of this, there is a growing body of research that shows time spent in nature increases the likelihood of viewing one's self as a part of the natural world (Cheng and Monroe 2012; Schein 2014), as well as providing benefits in relation to the general areas of wellbeing, cognitive processes, social skills, emotional/behaviour issues, and ethics/attitude towards the natural world (Gill 2014).

Also, by purposefully striving to take the environment into account when making choices, we can demonstrate its importance to those whose budding moral sensitivities we are helping to cultivate.

Phronesis – exploring social and environmental connections through dilemmas

Phronesis, as stated previously, is something that develops with experience. One way to develop *phronesis* is by engaging pupils with dilemmas or case studies, through which they can explore the complexities and conflicting virtues that occur in real life, especially within the sustainability field. By using virtue ethics as a framework, issues can be explored through an ethical lens. Bonnett (2004, 145) suggests that students should be encouraged to identify and critically examine the nature of social practices and their underlying motives, and suggests 'reflecting on experiences and practices in which students participate', or that 'impinge on their concerns'. He also suggests examining literature and art in a similar critical fashion.

Citizenship and the 'intellectual', 'civic' and 'performance' virtues

Finally, we would like to briefly mention the 'intellectual', 'civic' and 'performance' virtues that are included in the theory of virtue ethics. These are virtues that relate closely to ideas within the sustainability field, and to the concept of 'action competence' in particular, however, they differ from the more familiar 'moral' virtues, such as compassion or honesty, in that they 'derive their ultimate value from serving morally acceptable ends, in particular from being enablers and vehicles of the moral virtues' (Kristjánsson 2015, 17). Examples of 'intellectual', 'civic' and 'performance' virtues are critical thinking, citizenship, and resilience, respectfully. *Phronesis* is also considered an intellectual virtue. These are clearly important for sustainability – Sandler (2006) included them in his typology of environmental virtue in relation to environmental activism and stewardship, and Ferkany and Whyte (2011) argue for the need to develop participation and problem solving virtues in order for future citizens to tackle 'wicked problems'. However, intellectual and performance virtues are morally neutral, in other words they can be used towards virtuous or vicious ends, and thus must be cultivated alongside the moral virtues.

Both sustainability education and moral education are linked to citizenship. The concept of being a good citizen needs to be informed by sustainability. Virtue ethics provides a framework to examine citizenship through both the civic virtues and the moral virtues, including the virtue of harmony with nature.

The above gives a brief overview of educational possibilities for the coming together, of virtue/character education and sustainability education. However, further research is needed in this area, both in school contexts and in society at large.

In summary, it is hoped that this article has shown the relevance and advantages of a virtue ethical approach to sustainability; how we might foster the virtue of harmony with nature and a holistic, ecological worldview, alongside other virtues, in order to address the complexity and wicked problems inherent in sustainability issues; and has briefly shown where character education and sustainability education can interconnect and contribute to a transformational approach to sustainability.

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Notes

1. The 'Brundtland Commission' (formally known as the WCED (World Commission on Environment and Development), chaired by Gro Harlem Brundtland, produced the 'Our Common Future' report which contains the often cited 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' (WCED 1987, chap. 2).
2. Although we are reluctant to give a single definition of sustainability, since by its nature it varies with context, we will follow Sterling's (2001) lead and align ourselves with the definition given by Meadows, Meadows, and Randers (1992, 209): 'A sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or social systems of support'. However, both sustainability and sustainable development are used throughout the article in relation to other authors whose definitions will almost certainly differ.
3. Aristotle's theory of the golden mean contains various complexities which cannot be explored here. For example, some spheres of human activity do not admit of a mean (such as murder); the concept of a mean must be understood qualitatively (mean of good reasons for an activity) as well as quantitatively (mean between too much or too little of the activity); and the mean is considered to be relative to individual constitution, so for example temperance in eating is not the same for the athlete and the academic.
4. For an excellent discussion on the problems with taking deontological and consequentialist approaches to environmental or sustainability issues, see Chapter 2 of Brian Treanor's *Emplotting Virtue* (2014). For a general comparison of ethical approaches, see Hursthouse (1999, 2012).
5. Ferkany and Whyte (2011, 331) defined a wicked problem as 'A problem can be described as wicked when it involves deep disagreement and distrust among policymakers and stakeholders (even over how to formulate the problem itself), high degrees of scientific uncertainty, and a lack of any set of solutions that will not be harmful or disadvantageous to someone in some relevant way'.
6. van Wensveen's (2000) *Dirty Virtues: The Emergence of Ecological Virtue Ethics* marked EVE as a distinct field of study. She argued that the language of environmentalists was often implicitly virtue-based, and then applied this language to virtue ethics theory.
7. The teaching of intrinsic values can, arguably, be used as an alternative to the teaching of virtues.
8. Urban environmental education, for example, is a growing sub-field of environmental education that seeks to connect students to the local environment, and often includes community efforts to introduce green areas.

Notes on contributors

Karen Jordan is a PhD candidate at the University of Iceland. Her research interests centre on the role of virtues and values in sustainability, and the implications of this for education. She holds an MA in Environment and Natural Resources, and a postgraduate certificate in science education. She has worked in the sustainability field for 15 years, ranging from writing

campaign briefings at the NGO Global Justice Now in Scotland, to developing a school programme for a whale museum in north Iceland.

Kristján Kristjánsson is Professor of Character Education and Virtue Ethics at the Jubilee Centre for Character and Virtues, University of Birmingham, UK. His research focuses on Aristotle-inspired philosophical scrutiny of theories in educational psychology and values education, with special emphasis on the notions of character and emotional virtue. He has published extensively on topics in moral philosophy, moral psychology and moral education. His latest book is *Aristotelian Character Education* (Routledge, 2015).

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Article 2

The intersection of environmental and sustainability education, and character education: An instrumental case study

Although fostering values is promoted within environmental and sustainability education (ESE) and a shift in values seen as essential for a sustainable future, recent international findings indicate this aspect of ESE is being neglected (UNESCO, 2019). Previous research has shown there to be common ground between ESE and the field of character education (CE), a form of values education. Bringing together these two strands of theory and practice has the potential to be fruitful in terms of strengthening current, and introducing new, practices in both fields, particularly through drawing on existing evidence-based strategies within CE to inform ESE. While there has been some work in this regard, this has been almost exclusively theoretical and there has been little research regarding the *practice* of such integration. This paper details an instrumental case study exploring an existing case of where ESE and CE come together in practice. A study was conducted at a Scottish, independent, all-ages, holistic education-oriented school, exploring how ESE is carried out. Data were gathered via teacher interviews, school observations, field notes, and document analysis. Thematic analysis revealed four themes: the school as a sustainable organism; holistic learning; fostering a connectedness with nature; and nurturing the whole person. The data were then analysed from a CE perspective revealing multiple points of ESE-CE intersection e.g. school climate/ethos, role-modelling, and service-learning. The findings provide insight into the issue of ESE-CE integration, suggest new possibilities for future ESE and CE practice, as well as offer pointers for further research.

Keywords: sustainability education; environmental education; character education

Introduction

Increasing awareness and urgency of environmental and sustainability issues, such as climate change, biodiversity loss, and rising inequality, underlines the importance of environmental and sustainability education (ESE[1]), resulting in growing momentum in policy, research, and practice over recent decades. Most forms of ESE refer to education that fosters the development of knowledge, skills, attitudes, and values that will empower learners to contribute to sustainability and respond to local and global challenges (UNESCO, 2019, 2021). This research focuses on the values education aspect of ESE. A shift in values is seen as essential for a sustainable future, and while fostering values is promoted within ESE, recent findings indicate this aspect of ESE is being neglected (UNESCO, 2019).

Character education (CE) is a form of values education, and a distinct field of practice and research, that has had a resurgence of interest in recent years (Kristjánsson, 2013). Research has shown there to be common ground between CE and ESE (Berkowitz, 2017; Curren & Metzger, 2017; Hursthouse, 2007; Jordan, 2021; Jordan & Kristjánsson, 2017; Sandler, 2006). However, to date there has been little crossover between the two fields meaning valuable insights are confined to their respective silos.

This paper takes the stance that bringing together these two strands of research, theory and practice would be fruitful in terms of strengthening current understanding and practices, particularly through drawing on existing evidence-based strategies within CE to inform ESE. While there has been some work in this regard, it has been almost exclusively theoretical and there has been little research regarding the *practice* of such integration. To this end, this paper details an instrumental case study exploring how ESE and CE can come together in practice. The findings provide insight into the issue of ESE-CE integration, suggesting new

possibilities for future ESE and CE practice and research e.g. sustainability framed service-learning, role-modelling, and fostering a connection to nature.

The paper begins with a discussion of values education and its role within ESE, then points to existing work on ESE-CE crossover. Following an overview of the case study's context and methodology, the paper reports on the thematic analysis of the data (gathered via teacher interviews, observations, field notes, and document analysis). An analysis of the data from a CE perspective is then presented, bringing the themes into conversation with existing CE literatures. The paper concludes by discussing the implications of this work and suggesting future research.

Values and values education

Values are fundamental convictions and abstract motivations that act as guiding principles in people's lives, shaping thoughts and attitudes, and guiding actions and behaviour (Halstead & Taylor, 2000; Leiserowitz et al., 2006; Schwartz, 2007; Schwartz et al., 2012). Examples of values are honesty, broadmindedness, and compassion. Values are 'acquired both through socialization to dominant group values and through the unique learning experiences of individuals' (Schwartz, 1994, p. 21). Notably, they have been found to be foundational to social and environmental concern and action (Corral-Verdugo et al., 2015; Kasser, 2011; Schwartz, 2007; Stern, 2000).

Values education is 'any education "in" or "about" values' (Arthur et al., 2017, p. 19). Berkowitz (2011, p. 153) explains values education as 'the attempt, within schools, to craft pedagogies and supportive structures to foster the development of positive, ethical, pro-social inclinations and competencies in youth'. In the context of ESE, Scott & Oulton's definition of 'environmental values education' brings in features of sustainability:

> We see the values which individuals hold as being those actions, ideas and ideals which are of fundamental importance to them, and which act as guides to how they feel they ought to live their lives, interacting with other people and with other species. In this sense, values education can be seen as the systematic and planned attempts by teachers to explore such issues with learners—both in the context of the formal and informal curriculum and in the ways that the school as an organisation conducts itself, both internally and in its relationships with the wider community. (1998, p. 211)

It is beyond the scope of this article to provide a through review of the field of values education, instead the author points readers to reviews and collected works by Halstead & Taylor (2000), Lovat (2011), and Lovat et al. (2011) (see also Arthur, 2020 in relation to character education). This paper will focus on the role of values education specifically within ESE.

Values education within ESE

Within the UN Decade of Education for Sustainable Development (DESD, 2005–2014), the subsequent General Action Plan (GAP), as well as the Incheon Declaration for Education 2030, the development of values (along with knowledge, skills, and attitudes) that empower learners to contribute to sustainable development and respond to local and global challenges is promoted (UNESCO, 2019, 2021). Values featured heavily throughout the UNESCO 2006 Framework for the DESD International Implementation Scheme, stating for example: 'ESD is fundamentally about values, with respect at the centre: respect for others, including those of present and future generations, for difference and diversity, for the environment, for the resources of the planet we inhabit' (UNESCO, 2006, p. 4).

In a 2018 UNESCO report, *Issues and trends in Education for Sustainable Development*, Rieckmann (2018, p. 45) noted that while competencies, such as critical thinking, relate to the capacity for 'sustainability performance', competencies by themselves don't necessarily result in sustainable actions, and 'to transform capacities into real sustainable actions, individuals need corresponding values and motivational drivers' (see also Leiserowitz et al., 2006; Shephard, 2008) as well as supportive contextual factors that enable action (see also Leiserowitz et al., 2006).

However, a 2019 UNESCO study assessed whether, and to what extent, three learning dimensions—cognitive, behavioural and socio-emotional (including values) are prioritised in ESD across compulsory education in 10 countries found 'ESD content included a greater focus on the cognitive dimension than the behavioural dimension and placed the least emphasis on the social and emotional dimension' (UNESCO, 2019, p. 8). While the study acknowledged different emphasis across countries and education levels, it concluded more attention needs to be paid to the social and emotional dimension of learning (UNESCO, 2019). The study stressed the need for all three interrelated dimensions of learning to be developed in union 'to advance a value-based and holistic approach to learning that is truly transformational' (UNESCO, 2019, p. 7).

There appear to be common ways ESE practitioners pursue values education. Shephard (2008), reviewed existing teaching and learning activities relating to the affective learning domain (which relates to values, attitudes, emotions and motivations) in higher education, and found most activities used experiential learning e.g. discussion, peer involvement, role playing, problem-based learning, simulations, games, group analysis of case studies, expert engagement, perspective sharing via reflection. Shephard (2008) particularly stressed the 'pivotal role of role models' (p. 95) as well as the importance of service-learning in teaching affective outcomes in relation to sustainability. Similarly, Lewis et al. (2008) found hands-on, real-life projects (e.g. creating a community permaculture garden, conducting a trial for a turtle-nesting site) to be a meaningful approach to teaching values e.g. care and respect for nature, where the values are made understandable and seen to be practical rather than abstract concepts. Tudball (2010), in a study of Australian schools' good practice in values education, found service-learning a means to develop 'students' responsibility, and respect for others and the environment', and allowed students to put 'values into practice in functional and purposeful ways' (p. 787) (See also Lovat & Clement, 2016).

An established means of fostering values in relation to ESE is by providing learning experiences in nature to encourage a connection to nature and values such as respect for nature. Sobel (1996, 2017) wrote of the importance of fostering nature connection early in childhood before addressing issues such as deforestation or climate change: 'If we want children to flourish, to become truly empowered, then let us allow them to love the earth before we ask them to save it' (1996, p. 39). Carson (1965/1998) similarly urged adults to nurture the childhood sense of fascination and wonder for nature, and that the development of 'feelings' in children is in fact more important than teaching facts (see also Washington, 2018). Recent psychological research by Lumber et al. (2017) found that engaging and reflective experiences with nature led to an emotional connection to nature, a revering of nature, and related moral concern and reasoning.

Character education

In recent decades, there has been a worldwide resurgence of interest in character education (CE) (Arthur et al., 2017; Kristjánsson, 2013). CE is a subset of moral education, itself a subset of values education specifically relating to the moral sphere. CE comes in a variety of

approaches, yet all seek to support the social, emotional and ethical development of students, and foster the development of positive character traits in learners, usually referred to as *virtues* (Arthur et al., 2017; Berkowitz, 2011, 2017).

Approaches to CE can be roughly divided into direct/explicit or indirect/implicit, also referred to as *taught* or *caught* CE (Arthur et al., 2017). Explicit CE is openly part of the curriculum, and generally involves direct instruction and transmission of moral content. Implicit CE instead places emphasis on school culture, ethos, and role-modelling (Arthur et al. 2017); and the pupil's active construction of moral meaning through participation in democratic practices, social interaction and moral discussion (Lapsley & Narvaez, 2007).

Despite the recent advances in both the CE and ESE fields, disciplinary boundaries continue to separate the two fields, meaning valuable insights that could be mutually beneficial remain confined to their respective silos (Ferkany, 2021). However, there have been notable exceptions of ESE-CE crossover. Berkowitz (2017) wrote of 'the centrality of CE for creating and sustaining a just world' (p. 83) and argued 'a more sustainable, just, and compassionate world will only happen if there are more people able and motivated to steer the world in that direction. This is precisely the definition of character: "characteristics that motivate and enable one to act as a competent moral agent"' (p. 93). He went on to stress the importance of knowing and implementing research-supported strategies, listing six principles that have been found to guide effective CE:

> Prioritizing character education as a central purpose of the school; being strategic and intentional about nurturing healthy relationships among all stake-holders; using practices that lead to the internalization of values and intrinsic motivation to do good in the world; modelling the character we want to see in students; sharing power through a pedagogy of empowerment; and strategically creating the conditions that lead to positive development, especially over the long term' (Berkowitz, 2017, p. 93).

A sub-field of virtue ethics (one theoretical base for CE)[2] that is particularly relevant to ESE is that of environmental virtue ethics (EVE). Around the turn of the millennium, EVE emerged as a means of addressing environmental issues through the cultivation of virtues (character traits) relating to the environment. As outlined by Hursthouse (2007, p. 155), EVE proposes the application of traditional virtues such as compassion, temperance, benevolence, etc., to the 'new field of our relations with nature' (see also Ferkany, 2021; Sandler, 2006). The fostering of various virtues has been proposed as crucial to sustainability; virtues that 'global citizens will likely need in confronting sustainability problems' (Ferkany, 2021) e.g. justice (Curren & Metzger, 2017; Ferkany, 2021; Sandler, 2006); temperance (Sandler, 2006; Treanor, 2014); frugality (Ferkany, 2021; Sandler, 2006); cooperativeness (Ferkany, 2021; Sandler, 2006). Additionally, new virtues dealing explicitly with our relationship with nature have been suggested, e.g. 'attentiveness', 'respect for' and 'care of' nature (York and Becker, 2012); reverence for nature, wonder for nature (Sandler, 2006). Hursthouse (2007) proposed the virtue of 'being rightly oriented to nature', and described how teaching a child to understand, appreciate, care for, and feel wonder for nature begins to shape a particular mindset relating to the natural world. This connects to the works of Sobel (1996, 2017) and Carson (1965/1998, see also Washington, 2018) above, as well as research within ESE that asserts the need for a mindset change e.g. Bonnett (2002) on 'sustainability as a frame of mind', Sterling (2001, 2014) on ecological thinking and Jordan & Kristjánsson (2017) on the virtue of harmony with nature.

Various CE practices in relation to ESE have been proposed: cross-curricular, collaborative, civic, and project-based learning, the fostering of a sense of global citizenship, ethical reflection, cooperative ethical inquiry, and discussion of case studies (Curren &

Metzger, 2017); modelling of sustainability virtues by schools and teachers, communities of virtue with a school leadership and overall culture that demonstrates the virtues (Ferkany, 2021), a focus not solely on individual attainment, but on the 'deep exploration and articulation of issues pertaining to sustainability' (Curren & Metzger, 2017, p. 178) and asking learners 'to think creatively about how to live flourishing lives in ways consistent with sustainability?' (Curren & Metzger, 2017, p. 68).

However, ESE-CE integration remains largely theoretical, with little overlap in terms of practice.

Context of the case study

Holistic education is associated with the concept of 'educating the whole child' and the aforementioned *heads-hands-heart* approach to learning (Miller, 2019; Singleton, 2015). Holistic education considers the emotional, social, cultural, and moral development of pupils as important as their 'academic' development. Although the approach does not have a dominant form, Forbes (1996, p. 1) found 'a number of values and perceptions that most schools claiming to be holistic would embrace': systems thinking, self-transcendence, school as community, cooperation not competition, inclusion and respect of diversity, self-determination, teacher as facilitator, critical thinking, interdisciplinary curricula, and democratic often cooperative organisation. Holistic education has a focus on fostering pupil's critical thinking *and* emotional and moral development.

One form of holistic education is Steiner Waldorf education, which forms the guiding educational philosophy of the case study school. In Steiner Waldorf education, core subjects of the curriculum are taught in interdisciplinary, thematic blocks and all lessons include a balance of artistic, practical and intellectual content (Avison & Rawson, 2014/2016; Steiner Waldorf Schools Fellowship, n.d.). Equal attention is given to the physical, emotional, intellectual, cultural and spiritual needs of each pupil according to the different phases of the child's development (Avison & Rawson, 2014/2016; Steiner Waldorf Schools Fellowship, n.d.). In accordance with Steiner's philosophy, children of different ages require different moral education approaches, e.g. with younger children the emphasis is on imitation, with older children the emphasis is on fostering judgement, intellect and practical idealism (Hether, 2001). The overarching educational goal is to provide young people the basis on which to develop into free, morally responsible, and integrated individuals. Today, there are nearly 3,000 Steiner Waldorf schools, across 70 countries (Freunde der Erziehungskunst Rudolf Steiners, 2021).

This holistic, *head-hands-heart* approach (Easton, 1997) aligns with research on the need to integrate cognitive (*head*), psychomotor/practical (*hand*) and affective (*heart*) learning in ESE (Fien, 1993/1995; Murray et al., 2014; Orr, 1992; Podger et al., 2010; Shephard, 2008; Sipos et al., 2008; Tilbury, 1997; UNESCO, 2019). Krathwohl et al.'s (1964/1973) theory on the affective domain provides a link between the *head-hands-heart* approach and CE. Krathwohl et al. (1964) depict the affective learning domain, like the better-known cognitive learning domain, as a hierarchy of levels of learning, beginning with *Receiving*, moving upwards through *Responding*, *Valuing*, *Organising*, and finally reaching *Characterising*, which they describe in the following way:

> The individual is characterised [by] the values they have internalised and organised, such that the values become a system of attitudes and tendencies that control much of their behaviour. This internalisation and organisation of values also results in the integration of beliefs, ideas, and attitudes into a total philosophy or world view. (Belton, 2016)

Ideas such as characterising, internalising and organising of values, and a system of attitudes and tendencies related to behaviour can be found in, and indeed are central to, CE. CE seeks to achieve morally sound affective outcomes indicating a parallel between affective learning (*heart*) and CE (see Wangaard, et al., 2014). Thus, it follows, a school that takes a *head-hands-heart* approach to education, including to ESE, will likely incorporate CE elements.

Aims and research questions

The purpose of this instrumental case study was to explore how ESE and CE might intersect in theory and practice, through examining a holistic education oriented school's approach to ESE and analysing if and how it relates to CE theory and practice. The following three questions guided the case study:

- How does a holistic education oriented all-ages school in Scotland carry out ESE?
- What, if any, common ground (intersection) exists between the school's ESE approach and CE theory and practice?
- What can we learn about ESE-CE integration from these findings?

Methods

Sampling method

An instrumental case study seeks to explore a particular issue or research question, and the case is chosen specifically to gain insight into and understanding of that issue/question (Simons, 2009; see also Mills, et al., 2010). This research sought to build knowledge on the issue of ESE-CE integration, and gain insight into what, if any, common ground (intersection) exists between ESE and CE practice, and related theory. The single, unique case was purposefully sampled as an example of an all-ages school that was perceived to take a holistic approach to ESE that included the values education aspect of ESE, or affective learning. The school was selected based on initial document analysis relating to school practices, approach, and its guiding educational philosophy: The school offers a curriculum 'inspired by the work of Rudolf Steiner and designed for the 21st Century' (School website, 2016), while also drawing on democratic schools, peace schools, and forest schools, and emphasises craft-based education and outdoor education. The school is a fee-paying, independent, all-ages school in Scotland, with 181 pupils, aged 3-18 at the time of study (October 2016). The seven teachers interviewed were aged between 25 and 65, two males, five females. All but two teachers were qualified Steiner-Waldorf educators, though the two who were not were participating in continuing professional development in that regard.

Data collection methods

Multiple methods of data collection were used to view the phenomenon from different angles, providing corroborative evidence of the data obtained and facilitating a more in-depth understanding (Bloomberg & Volpe, 2016; Simons, 2009). On- site data collection occurred across a four-day period in October 2016. Field notes were taken throughout.

Semi-structured interviews. Semi-structured interviews were used to gather data from the perspective of seven teachers (including the principal and vice principle, who were also class teachers, sampling based on availability) on their practice and the school approach regarding ESE. The starting question was: *How do you carryout, and how do you perceive the school carries out, environmental and sustainability education?* Interviews then generally followed the responses of the interviewee, but included questions asking for more detail or depth, which would also keep the discussion flowing e.g. *I'm getting an impression you go about it [ESE] in a very experiential way?* The interviews freely came to discussion of affective learning as part of ESE. The interviews were responsive to the teachers and the

situation e.g. one interview resulted in an impromptu tour of the school grounds to see and discuss the projects from the outdoor school week, while another interview took place during an outdoor hiking trip and included discussion on the role of outdoor education in ESE. Interviews were recorded for transcription when possible, otherwise notes were taken and written up immediately afterwards e.g. following the hiking trip. The interview method was chosen as a means of obtaining detailed descriptions of the teachers' practice, experiences and meaning making in their own words (Bloomberg & Volpe, 2016).

Observations. Observations were carried out during school classes, outdoor activities and excursions e.g. to a recycling centre, as well as general observations of the school environment and grounds in order to gain insight into the lived experience of the school community. The general ESE provision (education *in*, *about*, and *for* the environment and sustainability) and related issues (e.g. student–teacher relationship, learner–centred approach) were the main focus of the observations. However, observations were as descriptive as possible i.e. notes attempted to capture the entirety of the experience, the observations were kept open to possibility: 'to balance foreshadowed issues with staying open to the unexpected' (Simons, 2009, p. 57), and no checklist was used. Observations were recorded through note taking generally in real-time, or immediately afterwards if necessary e.g. following an outdoor walk. The Observations were used to provide a rich description as well as to explore the norms and values of the school culture (Simons, 2009). Additionally, observations provided a crosscheck on the data obtained in interviews. Observation notes formed a main component of the formal field notes (see below).

Documents. Analysis was carried out on documents pertaining to the curriculum, practices, calendar activities, and guiding philosophy of the school. Many of these documents were accessed via the school website (approximately 20 webpages/documents, including detailed curriculum by age group, school ethos, behaviour code, and a parent booklet). The book *The tasks and content of the Steiner-Waldorf curriculum* edited by Avison & Rawson (2014), which acted as a curriculum guide/text for the school was also analysed. Two official national school inspection reports (Education Scotland, 2014) were analysed, as well as six newspaper review articles (three describing school visits), and the school's official Facebook page, which detailed school events and festivals. These documents were used to both 'corroborate and augment evidence from other sources' (Yin, 2014, p. 107) and to add depth to the case by depicting and enriching the context and contributing to the analysis of issues (Simons, 2009).

Field notes. Field notes were taken throughout the study. While on-site, general thoughts and ideas relating to collected data and to on-going observations were jotted down in note form. More formal field notes were also made at the end of each data collection day, summing up each day's data as well as noting any apparent early emerging patterns, connections and themes, thereby providing a starting point for early analysis and interpretation (Simons, 2009; Yin, 2014).

Data analysis

Thematic analysis, according to Braun & Clarke (2006), was used to explore patterns within the entire data set (interviews, observations, documents, and field notes). The analysis was guided by the research question: *How does a holistic education oriented all-ages school in Scotland carry out ESE?* and the coding was informed by theories in ESE, education *in*, *about*, and *for* the environment and sustainability e.g. citizenship, place-based learning, interdisciplinary learning, outdoor-learning, school-climate. However, the researcher remained open to a different story than anticipated e.g. the school didn't teach holistic ESE, and therefore the analysis combines elements of both inductive and deductive coding. Data were actively and repeatedly read, and initial coding and themes reviewed. Codes and themes

are both semantic (descriptive) and latent (interpretive) (Braun & Clarke, 2006; Braun et al., 2014; Terry et al., 2017). As part of the theme development process following coding, a concept map was generated and refined to act as a tool to visually organise initial themes, sub-themes, and their links to each other (Simons, 2009).

The findings were then re-analysed from a CE perspective. The first stage of the analysis was based on the second research question: *What, if any, common ground (intersection) exists between the school's ESE approach and CE theory and practice?* The themes and sub-themes were positioned in relation to both ESE and CE theory and practice, and thus their point of intersection generated. This analysis was aided by the visual representation of the data in a Venn diagram. In the second stage, the points of intersection were brought into conversation with the CE literatures, and was guided by the final research question: *What can we learn about ESE-CE integration from these findings?*

This case study takes a broadly contextualist orientation to the data (Huxley et al., 2015; Terry et al., 2017), and interviewees' responses were viewed within the specific context of the school and educational setting, as well as the local and Scottish background. The researcher particularly acknowledges as a non-Steiner-Waldorf educator, they will interpret data as an outsider.

Validity and ethical considerations

It is important to acknowledge that an instrumental case study risks being a 'make-your-case' study (Corcoran et al., 2004). While conducting the case study the researcher endeavoured to remain reflective and critically subjective and to be open and responsive to a different story than anticipated. During interviews no attempt was made to impose ideas or lead the interviewee. Thematic analysis of the findings was carried out first within the conceptual framework of ESE and Steiner-Waldorf education, and only afterwards re-analysed from a CE perspective, to avoid imposing CE theory onto the initial findings. However, it should be acknowledged the researcher came to the study with grounding in both ESE and CE, and therefore the interpretation of the data will reflect that. Nevertheless, it is hoped the description given of the case will allow readers to make their own interpretations.

All interview data was triangulated with school and class observation data, field notes, and document analysis data to ensure it was supported by other sources of data. All sources of data were analysed together so that the findings are based on the convergence of information from the different sources (Yin, 2014).

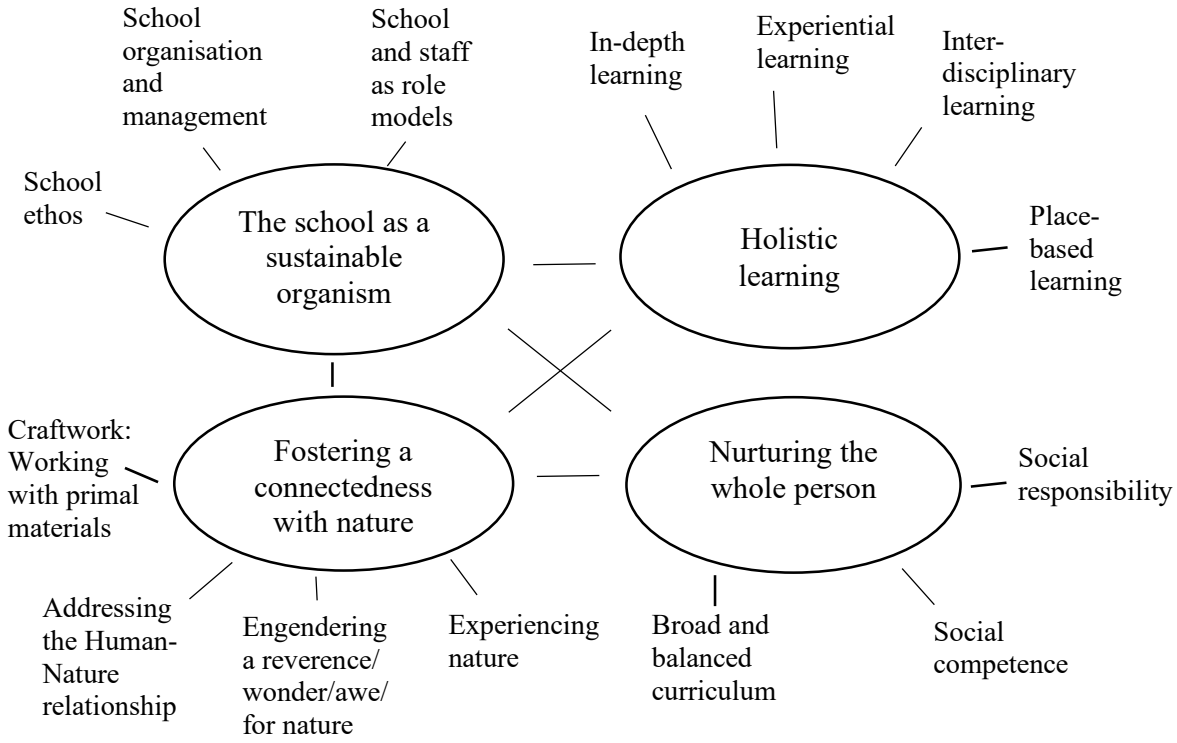
The school and the participants have been kept anonymous by using only titles/roles i.e. the school, the principal, the vice-principal, and teacher.

Findings

The key findings show ESE at the school was carried out through a variety of avenues, such as holistic learning approaches (e.g. place-based, interdisciplinary, in-depth, and experiential learning), the school environment (e.g. role-modelling, school ethos and school organisation), the subject matter studied, an emphasis on fostering students' connectedness to nature, and developing students' social competence and responsibility. This section introduces the four themes and fourteen sub-themes that were generated through thematic analysis. The four themes are: The school as a sustainable organism; Holistic learning; Fostering a connectedness with nature; and Nurturing the whole person. Figure 1, the concept map developed during thematic analysis, visually depicts the themes and sub-themes, and their links to each other.[3]

Figure 1

How the school carries out sustainability education - themes and sub-themes



Theme 1: The school as a sustainable organism

Central to this theme is the belief that sustainability needs to be enacted throughout the whole school, not just in lessons or the curriculum, but through the ethos, organisation, and workings of the whole school. The theme has three sub-themes:

- School ethos: Aims of school and school atmosphere.
- School organisation and management: Non-hierarchical, cooperative organisation and management, and sustainability leadership.
- School and staff as role-models

The school ethos sub-theme was visible in the curriculum (School website, 2016; Avison & Rawson, 2014/2016) and throughout the school website e.g. the pages/documents on the school ethos, the calendar and Facebook page detailing seasonal, nature connected festivals; as well as being revealed within teacher interviews.

> How do we meet the emergent future? . . . The question comes towards us socially, economically, and ecologically. . . . We believe the answer lies in the right education of our young people. An education that is not driven by economic and political agendas to simply produce 'good workers' but to build up the whole potential of the human being; the mental, emotional, and practical aspects. . . . The work of the head, the heart and the hands must be constantly held in balance if we are to develop

> healthy and resilient adults capable of making wise choices for themselves and for the world. . . . If we wish to see resourceful, adaptable and resilient human beings capable of empathy and compassion for other human beings then our education system must address these areas. (*Ethos*, School website, 2016)

The school ethos is clearly in-line with a holistic-education/head-hands-heart approach, but there is also a strong ESE aspect e.g. in terms of addressing the social, economic and ecological aspects of the future, developing resilience, and capability to make wise choices for the world.

The school organisation is non-hierarchical and cooperative, in line with sustainability leadership (Ferdig, 2007; Visser & Courtice, 2011). Teachers described staff meetings where staff jointly read through the guiding curriculum text and discussed their teaching ideas (Avison & Rawson, 2014) (Teacher Interview 3 & 4) and the impression given of staff meetings was one of open and free discussion. It was observed both staff and students have informal, respectful relationships, with teachers addressed by their first names. The lower school (age 6–13 years) curriculum document (School website, 2016) specifically states students build a 'strong relationship of mutual understanding and respect' with teachers, and 'learning at [the] school is non-competitive'. This was supported by descriptions within several of the newspaper articles recounting school visits.

The Vice-principal talked about the need for the school itself to be a role-model for sustainability, and that ESE needs to exist not just within the curriculum, but also throughout the entire workings and organisation of the school:

> Modelling, it's something we talk about a lot within the management of the school, is modelling a way of being that is positive. . . and forward looking. . . . For me, that's what sustainability is about. It's not delivering a curriculum, it's about the whole organism being sustainable. . . . About role-models, you know, how could you argue that an education was sustainable, if it actually in it's very essence is not sustainable. . . . So, you're teaching sustainability, but the actual system is not sustainable. Then it's not teaching sustainability is it? (Vice-principal/Teacher Interview 7)

Theme 2: Holistic learning

Central to the theme is sustainability learned through holistic learning. Experiential learning, interdisciplinary learning, in-depth study, and place-based learning are considered to fall under the term 'holistic learning' (Forbes, 1996) and have, therefore, been made sub-themes:

- Experiential learning: The process of learning through and reflecting on experience.
- Place-based learning: e.g. community-based learning, service-learning, outdoor fieldwork (see Smith, 2017).
- Interdisciplinary learning: An approach that resists disciplinary boundaries and instead focuses on themes, issues or problems.
- In-depth learning: Interdisciplinary, project-based, student-led approaches that increases students' ownership of their learning and follows students' interest.

Experiential learning is emphasised in the school ethos, with the importance of learning 'rooted in the reality of the practical life' highlighted (*Ethos*, School website, 2016). The learning approaches observed weren't exclusively experiential, and traditional sit-down classroom lessons were observed (e.g. a math lesson in class 4/5, a nature studies/stories lesson in class 1/2/3), however, the school did intersperse experiential learning throughout the day. One example of ESE-linked experiential learning observed, was an upper-school class-trip to the local recycling centre. A lecture was held by the staff, but then the students walked

around the facility, asked questions, discussed issues of non- recyclable waste and consumption, and then browsed in the second-hand/reuse-repurpose shop. The trip provided a memorable, real-life experience of the issue of recycling and included reflection on wider but connected issues such as consumption and local funds for such initiatives.

An important aspect of the case study school's upper-school curriculum is 'voluntary service', which 'extends the students' social and ecological awareness, and as an educational tool it is a good part of multi-dimensional, experiential learning' (*Curriculum: Upper School*, School website, 2016). The principal talked of the different volunteer activities students participate in e.g. beach cleans, helping maintain an edible woodland garden at a nearby eco-village, conservation work at the local nature reserve (Principal/Teacher Interview 1). Developing 'a fine sense of social responsibility' is a central aspect of Steiner-Waldorf education (Avison & Rawson, 2014/2016, p. 83), and students are expected to 'increasingly take on social responsibility' within the school and wider community e.g. through helping the community with social and ecological projects (Avison & Rawson, 2014/2016, p. 339). The case study school places a particular emphasis on outdoor, nature-based voluntary service.

At the school, daily 'main lessons' throughout lower- and upper-school (6–19 years) are taught in thematic blocks e.g. Art history or Farming, lasting over several weeks, and involve multiple aspects of a topic being explored and discussed in an in-depth and interdisciplinary way. Students also choose 'individual projects' where they explore a topic of their choice in depth over several weeks (Observation, 5th October 2016). In-depth, interdisciplinary learning draws out the complexity of real-life, inevitably bringing in sustainability issues e.g. one upper-school teacher explained gender equality issues are discussed as part of theatre studies through the historical role of women in theatre (Teacher Interview 2).

The four sub-themes of the *Holistic learning* theme can often be seen occurring simultaneously at the school. The Vice-principal, who is also an upper-school teacher, gave an example of a topic she taught where all four sub-themes were bound together: a topic on architectural history involved visiting architectural sites and learning about the history of societies through experiencing and responding to (e.g. through drawing) the buildings and by learning how, why and in what context they were being built.

> It's about trying to join things up, trying not to work, you know, take subjects in isolation. . . . And that's, I would argue, that's part of sustainability isn't it? Because it's the joined-up-ness of the world, that helps us to be sustainable, really. (Vice-principal/Teacher Interview 7)

Theme 3: Fostering a connectedness with nature

Central to the theme is education as a means of fostering a connectedness with nature; developing a reverence for nature that produces a lifelong concern for ecological sustainability issues. Sub-themes show how specific approaches contribute to nature connectedness. The theme has four sub-themes:

- Addressing the Human-Nature relationship.
- Craftwork/Craft-based learning.
- Experiencing nature.
- Engendering a reverence/wonder/awe for nature.

The school follows the basic Steiner-Waldorf curriculum that has two interacting strands—science and humanities—with a focus on the 'partnership' between humans and nature e.g. through agriculture and the use of materials (Avison & Rawson, 2014/2016). While talking

about the two strands of the Steiner-Waldorf curriculum, the Vice principal explained the centrality of the relationship of man to nature and how that could foster sustainability thinking:

> So, I guess what you're doing by that—implicitly you're constantly questioning the relationship of man, as in human beings . . . and the environment, nature. . . . I would say that's the touchstone of the education, is the relationship of man to nature. . . . if that's what's happened to a child in their journey through Steiner education, then possibly, you would think by the time they leave, they would . . . be thinking sustainably . . . You know, because we're thinking about our affect on the world. (Vice-principal/Teacher Interview 7)

There is a strong emphasis on craftwork or craft-based learning at the school, more so than at other Steiner-Waldorf schools, and underlying this is the idea working with 'primal materials' such as wood and clay provides a grounding in the material world as a part of sustainability/environmental education (Principal/Teacher Interview 1). The Principal, who is also the craftwork teacher, described a canoe-building project, which brought together craftwork, holistic learning, and ESE. While the students built canoes, the origin of the materials (e.g. repurposed liquor barrels from the USA) were discussed, alongside concepts such as buoyancy, and while craftwork and teamwork skills were developed. Later the canoe was used in a group expedition to a lake, forming part of a shared student experience in nature (Principal/Teacher Interview 1).

Outdoor activities, where students 'engage with the immediacy of the environment', are a central part of the school's curriculum (*Curriculum: Upper School*, School website, 2016). Outdoor learning occurs throughout the day and in different forms e.g. orienteering, school gardening, movement exercises outside, watching and reflecting on a sunset. The researcher accompanied upper-school students on an afternoon outdoor excursion focussed on learning navigation in a natural setting. At the start of term, the school has its annual 'Outdoor week', where students are exclusively engaged in school grounds projects e.g. building an amphitheatre or tree platforms for younger children to use to climb trees. Case study observations included a guided walk exploring and discussing the outdoor projects with the School Principal (Principal/Teacher Interview 1), and again, later, with upper-school students who were writing reflections on the Outdoor week as part of their English class (Observations, Day 2). Reflecting on their time spent in nature is emphasised at the school (Newspaper article 1; Observation, Day 1)

The School principal talked about engendering a reverence to nature in the students, in an implicit, rather than explicit, way, and likened this to a pervading ecological language:

> It's implicit in everything we do from kindergarten. And this is really important to stress and emphasise, that if a child grows up in an environment where there's a kind of all pervading . . . implicit reverence for nature. . . . in kindergarten through stories of fairies and the gnomes and the elves. . . we give them these pictures of these [nature] forces but in kind of personalised terms, . . . so that they have this awe and wonder, which is really part of them, it's really part of them from the word go. They work with natural materials, work with sand, and water, and wood, and rock. . . . And so, that becomes part of their very being. . . . ecological and environmental teaching is like learning a language. If you learn it from very, very young it just becomes part of you. . . . we can do that in kindergarten, in a certain type of education, not through explicit[ly] saying "D'you know, you must never drop your litter". We would never say that in a Steiner school, ever, . . . it's not rule based, it's engendered in their very

being through gardening, through walks through nature, and through stories. (Principal/Teacher Interview 1).

Several other teachers similarly commented the school doesn't seek to address environmental concern or sustainability through rules, rather through the functioning and ethos of the school community, and through educating the whole person, allowing each student to explore the human-nature relationship and to learn by experiencing nature and the real-world in all its complexity (Teacher Interview 3, 4 & 5).

One Lower-school teacher emphasised the importance of younger students learning to positively connect with the world, and to experience positive feelings in nature (Teacher Interview 6). A high-school teacher said they considered students spending time outdoors was key to fostering respect for nature (Teacher Interview 3). Discussion of environmental/sustainability issues/problems for example isn't intentionally introduced until upper school (age 13). This is in line with the Steiner-Waldorf curriculum that considers students of different ages to require different approaches, e.g. with younger students the emphasis is on imitation, with middle-school students the emphasis is on feelings, and with upper-school students the emphasis is on fostering judgement and critical thinking (Avison & Rawson, 2014/2016; Hether, 2001).

Theme 4: Nurturing the whole person

Central to this theme is the need to educate the whole person. This theme captures a multifaceted approach evident in the data. It draws on the Steiner-Waldorf curriculum, but also the unique and broader approach of this particular school. Although the subthemes are specific to the case and to Steiner-Waldorf education, there are certainly parallels between the *Social competence* sub-theme and the importance of discussion and social or participation skills and competencies discussed in the ESE literature (e.g. see Reickmann, 2018). The *Social responsibility* subtheme links to sustainability seen as a social issue. The theme has three sub-themes:

- Broad and balanced curriculum: The importance of practical and emotional learning. Also, the idea that by nourishing the whole person through the arts, nature, etc. the root causes of unsustainability are addressed.
- Social competence: skills and values relating to meaningful engagement and interactions with others.
- Social responsibility: fostering responsibility as part of society and towards the environment, extending students' social and ecological awareness (*Curriculum: Upper School*, School website, 2016).

Social competence is part of the Steiner-Waldorf curriculum and considered part of students' moral development. In *The tasks and content of the Steiner-Waldorf curriculum* (Avison & Rawson, 2014/2016), used by the school as a curriculum guide/study, the authors state: 'social awareness needs to inform the school organisation in implicit and explicit ways' (p. 333), through the functioning of the school community e.g. management of conflicts, as well as through the curriculum: 'Children must experience an environment in which social competence is apparent in the relationships around them . . . The theme of social skills weaves throughout the curriculum and the teaching method' (Avison & Rawson, 2014/2016, pp. 333-334).

As discussed above under the *Holistic learning* theme, social responsibility is part of the Steiner-Waldorf approach and features in the curriculum guide followed by the school (Avison & Rawson, 2014/2016, p. 339): 'Students should increasingly take on social responsibility within the school community . . . helping with local community, with

ecological projects . . . generating support for refuges, etc.' 'Volunteer Service' is part of the school's curriculum (*Curriculum: Upper School*, School website, 2016) e.g. the students participate in beach cleans, and maintaining a local nature reserve (see more on this above under *Holistic learning*).

Overall, the school can be seen to be working with ESE holistically, through the *head*: e.g. transdisciplinary learning and curriculum, critical thinking; *hands*: e.g. experiential learning, craft skills (boat building, gardening), volunteer service/conservation work; and *heart*: e.g. nature connection and reverence, social responsibility, place-based learning, school ethos (see Sipos et al., 2008).[4] However, several teachers stressed ESE permeates all teaching throughout the school (Teacher Interview 3, 4 & 5).

The general approach seen throughout the school, and in particular the *Holistic learning* and *The school as a sustainable organism* themes, connects to the research by Shephard (2008) discussed in the literature review, which found activities using experiential learning and role-modelling were pivotal in affective teaching. Whereas, the unique *heart* aspect seen at the school through the *Fostering a connectedness with nature* theme in particular resonates with the aforementioned work of Sobel (1996, 2017) and Carson (1965/1998) on the importance of fostering love or wonder towards nature.

Although, ESE is more likely to occur within holistic learning approaches, it is the fact the school's environment and sustainability imbued ethos purposefully permeates the whole school that ensures the knowledge, skills and values bound together in student learning relate to the environment and sustainability. The environment and sustainability is brought to the forefront of learning through an explicit emphasis on it in the school ethos, and notably through role-modelling, a focus on the human-nature relationship in the curriculum, and the prevalence of experiences in nature (including community-based volunteer service work) that seek to foster a connection to and reverence for nature.

CE Analysis

Having addressed the first of the research questions, the paper will now turn to the second and third research questions:

RQ2. What, if any, common ground (intersection) exists between the school's ESE approach and CE theory and practice?

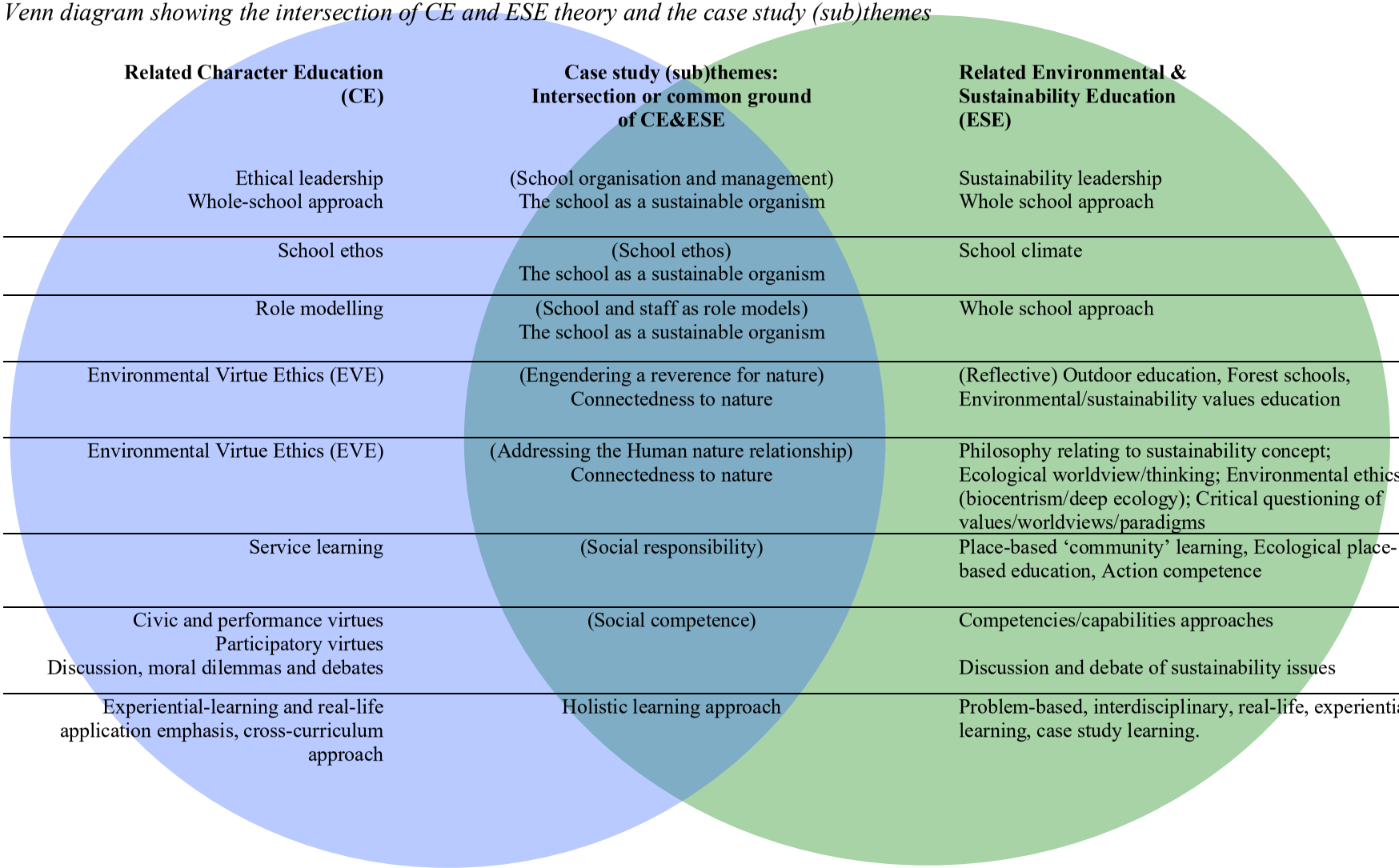
RQ3. What can we learn about ESE and CE integration from these findings?

The first stage of analysis involved positioning the themes and sub-themes in relation to both ESE and CE theory and practice, and thus revealing any points of intersection. This analysis was aided by the visual representation of the data in a Venn diagram (Figure 2). In the second stage of analysis, the points of intersection were brought into conversation with the CE literatures, guided by research question three (RQ3).

The Venn diagram (Figure 2) depicts the intersection of, or the 'common ground' between, CE and ESE *as seen at the school*. The overlapping region shows the themes and sub-themes developed through the case study thematic analysis and their relation to CE and ESE theory/practice in the left-hand and right-hand circles respectively, showing how the school integrates elements from both fields.

Figure 2

Venn diagram showing the intersection of CE and ESE theory and the case study (sub)themes



Related Character Education (CE)	Case study (sub)themes: Intersection or common ground of CE&ESE	Related Environmental & Sustainability Education (ESE)
Ethical leadership Whole-school approach	(School organisation and management) The school as a sustainable organism	Sustainability leadership Whole school approach
School ethos	(School ethos) The school as a sustainable organism	School climate
Role modelling	(School and staff as role models) The school as a sustainable organism	Whole school approach
Environmental Virtue Ethics (EVE)	(Engendering a reverence for nature) Connectedness to nature	(Reflective) Outdoor education, Forest schools, Environmental/sustainability values education
Environmental Virtue Ethics (EVE)	(Addressing the Human nature relationship) Connectedness to nature	Philosophy relating to sustainability concept; Ecological worldview/thinking; Environmental ethics (biocentrism/deep ecology); Critical questioning of values/worldviews/paradigms
Service learning	(Social responsibility)	Place-based 'community' learning, Ecological place-based education, Action competence
Civic and performance virtues Participatory virtues Discussion, moral dilemmas and debates	(Social competence)	Competencies/capabilities approaches Discussion and debate of sustainability issues
Experiential-learning and real-life application emphasis, cross-curriculum approach	Holistic learning approach	Problem-based, interdisciplinary, real-life, experiential learning, case study learning.

Overall, the diagram (Figure 2) shows how the theme-related CE methods are predominantly indirect or implicit. Many of the themes and sub-themes link to implicit moral education through the school community, and 'the development of character through all the agencies, instrumentalities and materials of school life' (p. 4) as advocated by Dewey (1909/1975), who considered indirect CE far more influential than direct moral instruction. In particular, the sub-themes of *School ethos* and *School and staff as role models* intersect with indirect CE's emphasis on school culture, ethos, and role-modelling (Arthur et al. 2017). This was supported by several members of staff during interviews (Teacher Interview 3 & 4), who implied an implicit/indirect approach and vocally opposed an explicit/direct approach to teaching values. This was also seen in the interview with the school principal quoted above under *Theme 3: Fostering a connectedness with nature.*

It is beyond the scope of this paper to go into detail on each of the points of intersection depicted in Figure 2. However, below, two sub-themes and one theme and the corresponding/intersecting CE method(s) will be briefly examined. The (sub)themes were chosen in terms of their link to evidence-based CE practices (Berkowitz, 2011, 2017), and to draw from across multiple themes.

Role-modelling (School and staff as role-models sub-theme)

As mentioned above, Shephard (2008) stressed the essential function of role-models in teaching affective outcomes in relation to sustainability, and role-modelling is considered a fundamental method in character education (Arthur et al., 2017; Berkowitz, 2017; Curren & Metzger, 2017).

Sanderse (2013) contends that for role-modelling to be effective, it needs to be *emulative*, where the learner understands the reasoning and emotions motivating the behaviour being modelled (see also Arthur et al., 2017). This type of role-modelling is supported in the case study school by the informal and close relationships among students and staff, whereby teachers explain their thinking openly (see the discussion of the sub-theme *School organization and management* above). As mentioned above, Berkowitz (2017, p. 93) states the importance of power-sharing and 'a pedagogy of empowerment' as part of CE. Crucially, emulation is facilitated through the school's whole-school approach, where individual actions fit into an overall stance in terms of sustainability. Although specific actions may not be guided by explicit rules, they are guided by the ethos and approach of the school. The interview and observation data suggest the school itself, the school community and staff collectively within that environment model sustainability more so than individual teachers, e.g. emphasis on and use of nature-rich school grounds; material choice and use; the whole school participating in outdoor week where the school outdoor areas are enhanced; the celebration of 'nature festivals' by the school community (School website, 2016; School Facebook site, 2016); as well as the observed non-hierarchical structure of staff relationships.

Service learning (Social responsibility sub-theme)

Shephard (2008) states service learning is often employed as a means to achieve affective learning outcomes across subjects, employing reflective experiential learning to engage learners with community-based issues and needs (see also Lewis et al., 2008; Lovat & Clement, 2016, Tudball, 2010). In relation to CE, Lapsley & Narvaez (2007) state service learning provides students with opportunities for moral action, providing a meaningful way for students to engage in character development while contributing to society.

Within the school's curriculum guide there is an emphasis on developing 'a fine sense of social responsibility' fostered though practical training and work experiences (Avison & Rawson, 2014/2016, p. 83). There is considerable overlap between service-learning as part of

the *Social-responsibility* sub-theme and the *Holistic learning* theme, since service-learning is experiential, place-based, and involves interdisciplinary learning.

Notably, the school differs from many other CE service-learning programmes, which aim to foster civic engagement and citizenship (Arthur et al., 2017), by placing emphasis on outdoor, nature-based service learning e.g. conservation work at the local nature reserve, assisting at a nearby edible orchard/woodland garden, and voluntary beech cleans (Principal/Teacher Interview 1). This places the fostering of civic engagement within the context of the environment, and can be seen as fostering environmental citizenship or stewardship (see Sandler, 2006; Smith, 2017; Treanor, 2010, 2014).

Environmental virtue ethics (Fostering a connectedness with nature theme)

Hursthouse's (2007) discussion of 'being rightly oriented to nature', and in particular her argument for the need for such an orientation to be understood as a virtue, a trait of character, which cannot be adopted merely through a rational process, parallels the theme *Fostering a connectedness with nature*, and the sub-theme *Engendering a reverence for nature* in particular (see also Sandler, 2006[5]). Hursthouse (2007) contends by teaching children to understand, appreciate, care for, and feel wonder for nature, a particular mindset relating to the natural world is shaped. This resonates with the School Principal explaining reverence for nature is 'engendered in their [the students'] very being' and becomes 'really part of them . . . part of their very being' (Principal/Teacher Interview 1) and was echoed by another teacher stating students consider themselves 'part of nature' (Teacher Interview 5). The Principal also mentioned teaching nature stories containing personifications of nature, fairies and gnomes, as part of the lower-school curriculum, which he described as fostering students' 'awe and wonder' for nature (Principal/Teacher Interview 1). Caring for nature can be seen throughout the school levels: Kindergarten classes have 'Garden Fridays', where students spend the whole day outside in the school edible garden (Observations, Day 1); lower-school students have a weekly outdoor session e.g. learning to compost (Teacher Interview 6); whereas high-school students maintain the nearby eco-village orchard (Principal/Teacher Interview 1), as well as maintain the school grounds as part of outdoor week e.g. weeding, planting trees, clearing paths (Observations, Day 1 & 2).

Based on psychological research, Kals & Müller (2014) stressed the importance of an affective connection to nature in terms of forming moral motivation needed when faced with socio-ecological dilemmas that require perceived self-sacrifice for the common good. They suggested positive nature experiences were key for developing feelings of empathy toward and identification with nature (Kals & Müller, 2014).

ESE-CE integration

ESE-CE intersection in this case study is part of a holistic, interdisciplinary, whole-school educational approach. Integrated ESE-CE weaves throughout the holistic learning approaches, the curriculum, and ethos. The ESE-CE provision is predominantly implicit, but it is also intentional, being aligned with the school ethos that is both imbued with sustainability but also a head-hands-heart educational approach. The school can be seen to practice typical implicit CE methods in relation to ESE, for example role-modelling, school ethos, a whole-school approach, and service learning. Notably, *Engendering a reverence for nature* represents an example of environmental virtue ethics in practice (See above, also Hursthouse, 2007; Jordan & Kristjánsson, 2017; Sandler 2006), while linking to the often called-for mindset approach within ESE (Bonnett, 2002; Sterling, 2001), showing where ESE and CE intersect in both practice and theory.

While some of the above approaches are advocated within ESE, they are more central to and prevalent within CE. Thus, the CE field can offer important insight into how to

incorporate these approaches e.g. established CE programmes, as well research in support of such practices (see above, also Berkowtiz, 2011, 2017). Conversely, the CE field can benefit from noting how typical CE approaches are altered by an environmental and sustainability emphasis, thereby expanding the remit of CE in line with the sustainability challenges we face today. Overall, these findings reveal potential avenues for future interdisciplinary research and practice for the fields of ESE and CE.

Limitations

The school is small-scale, independent, and works outside the general school system—there are no exams at the school for example. This results in the school receiving no state funding and it therefore relies upon fees subsidised through private/individual/community sponsorship. The question of transferability raises important questions about the larger-scale, instrumental exam-driven education prevalent across the UK. However, aside from a complete overhaul of the education system, there are still aspects of the school's approach that can be used to gain insight into ESE-CE integration.

Looking forward

The exploratory nature of this study positions it as a basis for future research exploring other examples of how the values aspects of ESE is being addressed. Action research bringing together ESE and CE practitioners would provide valuable insight into how ESE-CE integration might function in practice, including an exploration of facilitators and barriers to integration e.g. exam-driven education (Jordan, 2021). Exploring the impact of ESE-CE integration on teacher education and professional development would be another worthwhile avenue for research.

NOTES

[1] A note on terminology: While the term used in this paper is environmental and sustainability education (ESE), anyone familiar with the field of education in relation to/about/for the environment/sustainability/sustainable development will be aware of the semantic morass that exists. The author takes the stance that this paper is relevant to all educational attempts to foster a more environmentally and socially sustainable world. Here ESE is understood as education that aims to develop learners' knowledge, skills, attitudes, and values with the intention to enable a worldwide transition towards sustainability, and includes education *in*, *about*, and *for* the environment and sustainability. However, it should be noted throughout the paper when referring to other research that uses a different term to ESE e.g. ESD, the original term is kept whenever practical.

[2] For an overview of virtue ethics see Hursthouse (1999, 2012).

[3] When viewing the findings, it should be noted themes and sub-themes are separated in order to tease out the different aspects of ESE taking place. In reality, the different aspects are interconnected (signified by the connecting lines in the concept map) and are part of an integrated, holistic, head-hands-heart approach at the school.

[4] Sipos et al. (2008) developed a transformative sustainability learning framework based on action research at the University of British Columbia, that stressed a *head-hands-heart* approach to learning balancing cognitive, psychomotor, and affective (values-based) learning. They gave the example of planting a garden and preparing food for a community gathering as a means to address all three learning domains.

[5] The school's 'Reverence for nature' can be interpreted as a blending of Sandler's (2006) Virtues of Communion with Nature (including wonder, love) and Virtues of Communion with Nature (including reverence and compassion).

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Article 3

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THE FEASIBILITY OF INTEGRATING INSIGHTS FROM CHARACTER EDUCATION AND SUSTAINABILITY EDUCATION – A DELPHI STUDY

by KAREN JORDAN School of Education, University of Iceland, Reykjavik, Iceland

ABSTRACT: Although fostering values is promoted within sustainability education (SE), many educators appear concerned or conflicted about how, or whether, to approach values education. An interdisciplinary research project sought to draw on insights from character education (CE) in order to explore the problem. Using the Delphi technique, 12 CE and SE experts were gathered, via email, to explore their perceptions regarding the feasibility of integrating theoretical/practical insights from the CE and SE fields. Experts rated their agreement and made comments on 41 statements. Fourteen statements reached 'consensus'. Thematic analysis revealed experts' agreement on an ethical base of SE providing practical application of CE; a perceived tension between democracy, pluralism and normativity; reservations about the individual nature of CE; the need for CE, and SE, to more actively foster awareness of self as part of nature; a desire for holistic and interdisciplinary education; concern regarding exam-driven education and agreement on the need to re-examine the purpose of education. The findings reveal common ground between the two fields, as well as indicating where differences could be bridged and misunderstandings addressed, suggesting avenues for future collaboration and potential integration – possibilities that it would be fruitful to pursue through further interdisciplinary research.

Keywords: sustainability education, character education, Delphi study, values education, interdisciplinary studies

1. INTRODUCTION

Since the 1960s, when it became a distinct discipline, environmental education (EE), and subsequently sustainability education (SE), has undergone several changes in approach (Gough, 2013; Tilbury, 1995), moving from a focus on imparting knowledge, to behaviour modification, to a more critical approach, to education for sustainable development (ESD) (Breiting, 2000; Gough, 2013; Stevenson *et al*., 2016; Tilbury, 1995). Throughout these changes, values education has been considered a component to a greater or lesser extent (Scott and Oulton, 1998). However, values education is highly contested ground.

Educators have been shown to be unclear or conflicted on how, or whether, values should be approached or taught, with many teachers reluctant to address controversial

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issues in the classroom, uncertain of how self-disclosing or judgemental they should be, and concerned about indoctrination (Aðalbjarnardóttir, 1999; Halstead and Pike, 2006; Halstead and Taylor, 2000; Kristjánsson, 2013; Kopnina, 2012, 2014; Scott and Oulton, 1998; Shephard, 2008). There is an on-going tendency for values education to be viewed as instrumental, un-democratic, or incompatible with a critical approach (Wals, 2011; Wals *et al*., 2008).

Vare and Scott (2007) wrote of the two pedagogical approaches of ESD (see also Sterling, 2010; Wals, 2011; Wals *et al*., 2008), which they termed ESD 1 and ESD 2. The former refers to education that is instrumental, and promotes predetermined, expert-driven knowledge, behaviours and values. Whereas, ESD 2 refers to building individuals' capacity to think critically about sustainability issues and to self-determine sustainable ways of living (Vare and Scott, 2007; Wals, 2011; Wals *et al*., 2008).

ESD 2 seeks to foster active participation in a deliberative democratic community that considers pluralism and a diversity of opinions and approaches central to sustainability (Wals, 2010). In this context, a democratic and pluralistic stance allows for learners to offer and respond to different opinions, viewpoints, voices, ways of knowing, etc. Pluralism goes hand-in-hand with democracy, but is also inherent in sustainability: sustainability will require a variety of different approaches and responses depending on the spatial and temporal context (Wals, 2010).

In addition to democracy as a *process* of learning, ESD 2 also comprises democracy as a *product* of learning, i.e. learners experience participatory democratic debate and decision-making, and thereby learn skills to engage as citizens. Proponents of ESD 2 argue that ESD 1 reduces learners' ability to think and act for themselves, limiting their autonomous thinking, and reducing their capacity to manage change, challenges and setbacks as responsible citizens, thereby making individuals and societies less sustainable long term (Jickling, 1992; Vare and Scott, 2007; Wals, 2010).

However, Sterling (2003, 2010) warns that alone an ESD 2 type approach can be ethically bereft, lack direction and be prone to relativism, and as such may do little to support the move towards a more ecological/sustainable perspective (See also Kopnina, 2012; Washington, 2018). Kopnina (2012, p. 710) has argued 'there is nothing inherent about democracy that guarantees environmental protection'.

Furthermore, Bonnett (2003) criticises the focus on critical approaches as putting too much faith in rationality. Firstly, Bonnett (2003) questions the ability of students to make rational choices in light of the powerful influences present in a neoliberal society; Kretz (2014) for example, argues the neoliberal ideology appropriating westernised education fosters visions of self that are individualistic, consumerist, and competitive. Secondly, Bonnett believes 'modern rationality is itself not neutral but expresses certain aspirations towards the world (notably to classify, explain, predict, assess, control, possess and exploit), … rationality that has led to our current environmental predicament' (Bonnett, 2003, p. 699; See also Sterling, 2001, 2010, 2014).

Connected to these arguments, Kopnina and Cherniak (2016) argue that a pluralistic approach is anthropocentric and undemocratic in relation to the environment, by not giving nature a voice – 'some animals are more equal than others' (p. 831). Despite being opposed to approaches that foster predetermined values, the pluralistic ESD 2 approach itself is instrumental and value laden in terms of advocating for social and economic equity (Kopnina and Cherniak, 2016).

Additionally, Kopnina and Cherniak (2016) argue that an approach based on pluralism can leave more ecocentric stances as radical outliers, and call for a radical reconceptualization of the meaning of pluralism to include the more-than-human.

Vare and Scott (2007) came to the conclusion that rather than seeing the two approaches as competing, they should instead be considered as complimentary. Likewise, Sterling (2010) argued that the tension between the two traditions was impeding sustainability education's effectiveness, and called for their necessary reconciliation, mutual illumination, and integration.

The viewpoint of the need to combine these two pedagogical approaches motivated a research project, a part of which this paper is based on, that uses Repko and Szostak's (2017) Interdisciplinary Research Process (IRP) as a framework to explore the problem of teaching the values aspect of SE. The research takes an interdisciplinary approach, drawing on disciplinary insights, with the goal of integrating those insights to construct a more comprehensive understanding. It is intended that the findings will further theory and inform the development of teaching practices, and subsequently support educators in regards to the challenge of teaching the values aspect of SE.

In the early stages of the IRP Character education (CE) was identified as a relevant discipline from which to draw, being an existing field of educational research and practice that aims to support the social, emotional and ethical development of students.

Although it is beyond the scope of this article to thoroughly argue the case for integrating CE and SE (See Jordan and Kristjánsson, 2017 for a more thorough account), it is pertinent to explain the main reasons why character education was chosen as opposed to other values education approaches. Common ground was discovered in two main areas: Firstly, there are voices within the SE field that call for a fundamental change in ourselves in relation to each other, and in relation to nature or the more-then-human world. Sterling (2014) for example, talks of a shift in our worldview, in our perception, action, and knowledge, while the prominent environmental educationist Orr (2004, p. 60) argues sustainability is 'fundamentally about morality' and stresses 'the need to think seriously about the relationship between sustainability and human qualities subsumed in the word virtue'. Carr (2004) argues that the fostering of a deep connection with nature indicates a change in character rather than principle. In CE, the field of Environmental Virtue Ethics (EVE) already exists, with a focus on fostering virtues related to a deeper, more profound and respectful relationship with nature. CE and SE have the potential to overlap in terms of viewing sustainability as something we are, rather

than only something we do. Secondly, and related to the previous point, sustainability is often framed in the context of wellbeing or living well within ecological boundaries, and includes aspects of spatial and temporal equity. This corresponds with an emphasis on flourishing within certain, although not all, CE approaches, for example, Aristotelian virtue ethics aims towards individual and societal flourishing. The ability of individuals and societies to consider, and their practice of asking, fundamental questions regarding humanity's existence, and means of flourishing, within the wider ecological system will become more necessary as sustainability issues mount. These integral elements of CE link to the on-going sustainability debate and the 'excellences' needed to address sustainability issues.

Like the SE field, the CE field has similarly grappled with questions of democracy and indoctrination (Althof and Berkowitz, 2006; Kristjánsson, 2013), and concerns have been raised about CE being adopted towards neoliberal ends (Peterson, 2020). Debate continues on the role CE has in citizenship education with some favouring a knowledge and democratic skills-based approach (Althof and Berkowitz, 2006), while others advocate integration, arguing citizenship education inherently involves both the moral and the political (Peterson, 2020). Similar to Kopnina and Cherniak (2016) above, Kristjánsson (2004, p. 210) has argued that 'citizenship education is concerned primarily with the transmission and inculcation of democratic values, not merely the teaching of facts about what such values involve', thereby raising questions about the criticism of indoctrination in regards to other values, and revealing the inherent hierarchy of values this suggests.

The overlap between CE and the values aspect of SE, as well as a degree of similarity between on-going debates within the two fields, indicated SE, as well as CE, could benefit from interdisciplinary research involving the two fields. However, it is also worth noting that many of the issues brought up in this paper are applicable to other approaches to values education.

This paper presents findings from a Delphi study to explore experts' perceptions regarding the feasibility of integrating insights and/or practice from the CE and SE fields. The paper will report on the Delphi study findings, i.e. the experts' viewpoints, and then introduce the themes developed from those viewpoints expressed during the Delphi 'discussion'. Following this, the themes will be brought into conversation with the existing CE and SE literatures, placing them in the context of the wider discourse and situation within the two fields, thereby further shedding light on the feasibility of integrating their insights. Lastly, the implications of this work will be discussed and future research suggested. However, to begin, the paper will outline the Delphi method and how it was applied in this study.

2. METHODOLOGY

The Delphi technique can be seen as a structured group communication process that focuses on a problem (Linstone and Turoff, 1975, as cited in Okoli and Pawlowski, 2004). Since sufficient knowledge concerning the problem is required, a panel of experts is gathered. The Delphi study can be likened to

a virtual meeting of a panel of experts gathered to arrive at a group answer to a problem (Okoli and Pawlowski, 2004). The study was carried out via email.

Twelve participants ('experts') were purposefully sampled using criterion sampling, stratified purposeful sampling, and snowball/network/chain sampling (Bloomberg and Volpe, 2018). The objective was to select a mix of educationists from both the CE and SE fields. The experts were selected via a 'Knowledge research nomination worksheet' (Okoli and Pawlowski, 2004) in order to make the sampling process as transparent, non-biased, and systematic as possible. Seven SE experts (five 'academics', two 'practitioners'; three males and four females), and five CE experts (three 'academics', two 'practitioners'; three males and two females) from across seven countries, four continents, took part in the study. In terms of specialisation and approach in both SE and CE, it was attempted to gather a broad range of approaches to both SE and CE. SE experts' focus varied from the emotional and values aspects of SE, childhood education and learning, outdoor education, participation and SE competencies, and SE teacher training. CE experts' focus varied from moral development, social science education, cognitive psychology, and civic education. However, in regards to the CE experts, it should be acknowledged that there turned out to be a leaning towards, although not a restriction to, a neo-Aristotelian virtue ethics based approach to CE, therefore the findings should be viewed with this in mind. All participants provided written consent before participation. Below I use pseudonyms to refer to the participants, in order to maintain anonymity.

The Delphi involved the experts answering questions in three rounds (See Figure 1). Round 1 of the study sought to gather the initial ideas and perspectives that would then be developed and evaluated in the subsequent rounds – it consisted of five open-ended questions:

A. How *desirable/worthwhile* do you think the integration of insights and/or practice from the CE and SE fields is?
B. What *possibilities or options*, if any, do you think exist for the integration of insights and/or practice from the CE and SE fields?
C. What factors do you think might (or currently do) *impede* the integration of insights and/or practice from the CE and SE fields?
D. What factors do you think might *facilitate* the integration of insights and/or practice from the CE and SE fields?
E. How *practical/viable* do you think the integration of insights and/or practice from the CE and SE fields is?

Responses from Round 1 were anonymised and consolidated into a set of statements by the researcher, which were then sent to the experts in Round 2. Round 2 involved experts' evaluation of the statements in terms of agreement

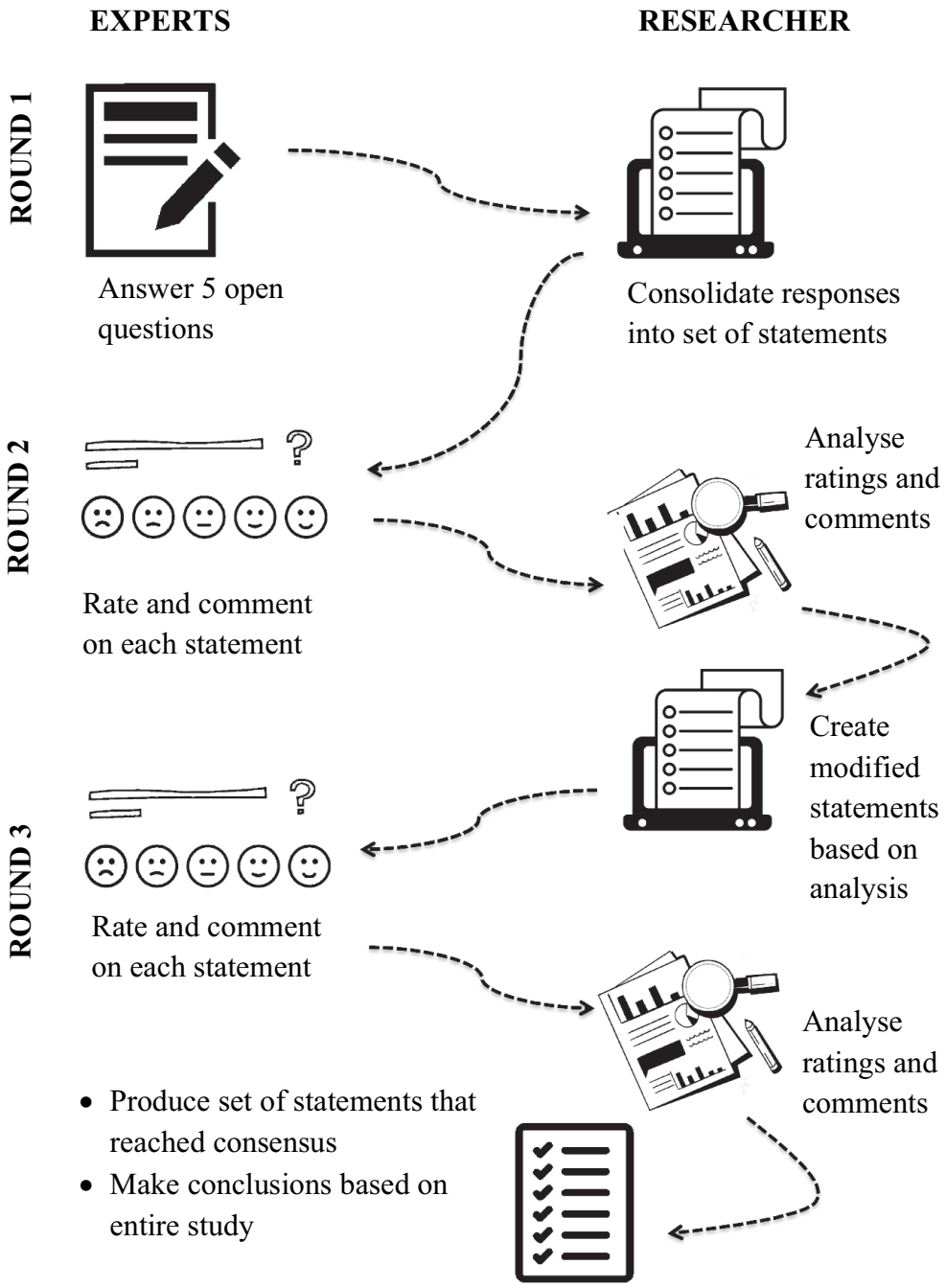

Figure 1. Delphi method used in study.

and importance via 5-point Likert items, and an opportunity for experts to add comments and revise their views (Okoli and Pawlowski, 2004).

Comments and evaluations from Round 2 were used to modify the statements. The modified set of statements, along with the Round 2 comments and descriptive

statistics on the evaluations were then sent to experts in Round 3. Statements that reached consensus in Round 2 (all experts either Agreed or Strongly agreed) were excluded from Round 3. In Round 3, participants again commented upon and evaluated each statement. Finally, the comments and evaluations from Round 3 were analysed, and a final set of agreed upon statements was compiled by the researcher. Data synthesis and interpretation (of ideas, concepts, and themes) is ongoing throughout a Delphi study. Descriptive statistics (median, mode, frequency data, response/point percentages, and interquartile range) of the Likert item evaluation responses given in Rounds 2 and 3 were calculated and tabulated in order to aid in the judgement of consensus in terms of agreement and importance, as well as provide insight into the ongoing discussion taking place within the Delphi.

While many Delphi studies aim for consensus, others, including this study, aim to allow differences to be brought to, and remain at, the surface. Developing clarity in terms of differences/contention is held as important as developing clarity in terms of consensus (Okoli and Pawlowski, 2004; Baumfield *et al*., 2012).

Thematic analysis, according to Braun and Clarke (2006), was used to explore patterns in the entire data set. It was considered important to go beyond the statements and try to draw out the key talking points throughout the entire Delphi. Thematic analysis was carried out on the statements, but also the comments given, as it was felt that the 'conversation' and particularly the 'Yes, but … ' comments were crucial to understanding and accurately portraying the viewpoints expressed. Each theme, therefore, is composed of codes relating to both statements and comments, both agreements and disagreements.

Data were actively and repeatedly read, and initial coding and themes reviewed multiple times. The analysis was guided primarily by the research question and the coding sought to be inductive and led by the data. Codes and themes are both semantic (descriptive) and latent (interpretive) (Braun and Clarke, 2006; Braun *et al*., 2014; Terry *et al*., 2017).

3. Findings

Results from Round 1

Round 1 collected experts' responses to the five initial questions (A-E, see above). Following Round 1, the responses were compiled by the researcher into 38 statements, which, based on experts' responses, were organised into the following three sections:

A. Possibilities for integration and existing common ground (15 statements)
B. Barriers to, and concerns regarding, integrating the SE-CE fields (9 statements)
C. Facilitators of integration (14 statements)

Results from Round 2

Experts evaluated 38 statements in terms of agreement and importance, and gave comments. Seven statements reached consensus (where all experts either 'Strongly Agreed' or 'Agreed') (See Table 1). Thirty-one statements remained contentious. Following Round 2, the 31 statements were then refined by the researcher, incorporating additional elements and/or removing elements based on experts' comments and evaluation. Additionally, three new statements emerged from the Round 2 comments, which were added to the existing 31 statements to form Round 3. The seven statements that reached consensus in Round 2 were not included in Round 3.

Results from Round 3

Experts evaluated 34 statements in terms of agreement and importance, and gave comments. Following Round 3, a further seven statements reached consensus (See Table 1).

At the end of the study, experts had rated a total of 41 statements. Fourteen statements had reached consensus (seven in Round 2 and seven in Round 3), whereas 27 statements remained contentious.

Thematic Analysis

Thematic analysis generated six themes: (1) SE has an ethical basis and provides practical application of CE; (2) Values, pluralism and democracy; (3) Individualism vs. collectivism; (4) Relationship with nature; (5) Interdisciplinarity; and (6) Purpose of education.[1]

In the following section, I will respond to the themes, developed from the expert viewpoints revealed in the Delphi, by bringing them into discussion with the existing SE and CE literatures and placing them in the context of the wider conversation and situation within the two fields, thereby further shedding light on the feasibility of integrating their insights.

Theme 1: SE has an ethical basis and provides practical application of CE

Thematic analysis revealed experts' belief in a 'deep ethical basis' of SE (Statement A4), involving 'ethical questions that revolve around the future of the planet and the life on it' (Statement A1). The view that sustainability, and subsequently SE, is, at its core, an ethical issue has been an enduring notion within the SE field and academic literature. In the 2013 *International Handbook of Research on Environmental Education* (Stevenson *et al*., 2016), Jickling & Wals, in their introduction to a section on environmental ethics, state: 'environmental education exists at the intersection of two normative ideas – education and ethics' (2013, p. 70).

TABLE 1. Statements that achieved consensus in Rounds 2 and 3

Round 2 (N = 10)			Agreement	Importance
Possibilities	A1	**SE involves extremely important ethical questions that revolve around the future of the planet and the life on it. SE could lend a sense of purpose to CE, and provide motivation for certain values and characteristics in light of global dysfunction. Integration of CE and SE could emphasise a practical application of good character, including the long-range implications of ethical, responsible behaviour.**	**70% SA** **30% A**	60% VI 30% I 10% N
Barriers	B4	The desirability of SE-CE integration depends on how they are defined. If, say, a right wing or neoliberal interpretation/drive of CE is assumed, then the creation of agency, resilience and self-confidence in individuals and society may be at odds with the efforts to create a more sustainable world.	60% SA 40% A	50% VI 50% I
	B5	A lack of familiarity, knowledge, and understanding of the other field, particularly in terms of concepts and language e.g. a narrow view of CE as only addressing resilience and/or self-confidence rather than the much richer concept in the Aristotelian tradition, or viewing SE as only environmental science, act as barriers to integration	60% SA 40% A	60% VI 40% I
	B9	**Instrumental/exam driven schools and a narrowing of the curriculum to focus on 'core subjects' (due to competitiveness, inspection frameworks, austerity, etc.), coupled with a lack of discussion on the purpose of education act as barriers to integration**	**80% SA** **20% A**	**70% VI** **30% I**

(Continued)

TABLE 1. (Continued)

Round 2 (N = 10)			Agreement	Importance
Facilitators	C3	Examples of successful practice/integrations e.g. through the establishment of networks to share and collaborate on best practice would facilitate integration.	30% SA 70% A	30% VI 50% I 20% N
	C5	An inter/trans-disciplinary approach in school education* would facilitate integration	60% SA 40% A	70% VI 20% I 10% N
	C13	**We need leadership that is reflective in terms of the purpose of education, and energetic in bringing about SE-CE integration.**	**70% SA** **30% A**	60% VI 30% I 10% OLI

(Continued)

TABLE 1. (continued)

Round 3 (N = 9 except where indicated)			Agreement	Importance
Possibilities	A4	Good sustainability education should not be predominately science and information based, as this is insufficient to create change. If done well, SE has a deep ethical basis, asks critical questions of who we are and who we want to be, and involves affective as well as cognitive learning. CE can help address these ethical and affective aspects of SE, and in doing so CE becomes more realistic and practical in terms of addressing real, pressing sustainability issues.	44% SA 56% A	67% VI 33% I
	A5	Being skilled and determined to participate in/take action towards the creation of a sustainable future should be common to both SE and CE. SE could learn from CE in terms of its important emphasis on service, ethics, and what it means to be a good citizen – and how to practice these and develop necessary skills. CE would benefit from opportunities to infuse, consider and experience what it means to be an environmental citizen, at all levels: local, national and global. CE needs the map of SE to orientate its purpose toward responsible citizens for an eco-centric approach rather than just a socio-centric one.	67% SA 33% A	67% VI 33% I
	A8	**Opportunities for integration of CE and SE exist through real-world and action-oriented learning, which provide a richer context and connect to learners' real-life experiences.**	**78% SA** **22% A**	67% VI 22% I 11% N
	A14	There is an existing overlap between SE and CE in terms of CE's developing agency among young people and the SE concept of action competence (ability to take informed, collective decisions and actions), where agency is developed in the context of health or environmental education. Agency is very important in order to enact a more sustainable future.	56% SA 44% A	56% VI 22% I 22% N

(Continued)

TABLE 1. (Continued)

			Agreement	Importance
Barriers	B3	It should be recognised that tension may currently exist between SE and CE proponents in terms of the central core purpose of education i.e. sustainability vs. young people leading fulfilling lives. This misconception needs to be addressed. Work must be done to show that to truly lead fulfilling lives we need a healthy planet, and how living sustainably, in community with all life, and pursuing *eudaimonia* (human flourishing) are all part of the same project.	33% SA 67% A	33% VI 67% I
	B8	The idea that schools should be value-free, neutral environments is untenable, and ethically questionable given what is at stake. No education is value free, and schools teach values and norms over the entire school day no matter how it is organized. The instrumental take on education reflects certain values for example. Ethics, values and questions of character are central to school education – it is the kinds of values that are reproduced, and how these would be agreed upon, that may be more in question for SE and CE.	67% SA 33% A	44% VI 56% I
Facilitators	C10**	Active engagement of all stakeholders: school campus, parents, communities, NGOs, associations, institutions and international organisations would facilitate integration of SE and CE. Sustainability requires a shift in the education system, one where a more holistic approach is not just embraced within the education system, but the wider systems of which it is a part.	62.5% SA 37.5% A	37.5% VI 62.5% I

SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree.
VI = Very important; I = Important; N = Neutral; OLI = Of Little Importance; U = Unimportant.
Bold indicates high consensus and/or rated importance (over 70% SA/VI).
* Original wording was 'schooling' which was considered by one participant to be connected to an unwanted formal approach, so the wording was changed to 'school education' to reflect that. The statement's meaning was not altered; therefore, it was considered unnecessary to re-evaluate it in Round 3.
** $N = 8$.

Experts agreed that CE was a means to help address these ethical, and more affective aspects of SE, and by doing so, CE would gain a 'practical application of good character' (Statement A1), by addressing 'real, pressing sustainability issues' (Statement A4): 'SE and CE are mutually strengthened by joining forces. SE expands beyond scientific data collections and analysis.[2] CE gets realistic and practical, finally' (CE expert Shaun,[3] comment on A1).

Here, SE is presented as an opportunity for CE to become more relevant to students' lives. Sustainability topics can be taught in such a way as to enable students to consider them as ethical issues and relate them to, the perhaps otherwise, abstract ideas of individual-, societal-, and environmental flourishing (See more below under the theme *Purpose of education*).

However, experts' comments showed reservations remained, particularly concerning democracy and the existing tension between pluralistic and normative approaches in SE:

> [T]he often discussed dilemma within SE regarding the importance of a democratic approach, which is stated by many to include free opinions and to avoid indoctrination or pre-set thinking or valuing (ex Jickling) on the other hand claims others [sic] that we do not have time with this normative dilemma discussion, we need to act and promote the necessary behaviours (ex Kopnina) (SE expert Abigail, on statement A1).

Theme 2: Values, pluralism and democracy.

SE expert Abigail's comment above returns us to the discussion in the introduction above regarding what Vare and Scott (2007) referred to as the ESD 1 versus ESD 2 debate, the 'instrumental' approach versus the 'emancipatory' approach to SE (Wals *et al*., 2008; Wals, 2011; See also Jickling and Wals, 2013), and Kopnina's critique of it (2012, 2014; see also Kopnina and Cherniak, 2016). The Delphi findings indicate that this is still a contentious issue within SE (see Sterling, 2010), and directly ties to CE and similar debates within that field.

Statements B6 and A16 (added in round 3), which were contested (experts were split in terms of agreement or disagreement, though there was more agreement , though not exclusively so, from the SE experts), addressed this:

> Possibilities for integration depend on how pluralistic and inclusive both CE and SE are. CE and SE are both normative and they need to be to avoid the pitfalls of endless relativism. We don't want to risk their dilution so that they are unrecognisable, or excessively palatable to all and then rendered meaningless. But they do need to be pluralistic enough to avoid becoming dictatorial or "brainwashing" – a real risk in both cases! (Statement B6).

> Many within the SE field argue for the importance of a democratic approach, which is usually stated to include free opinions and to avoid indoctrination or pre-set thinking or valuing; this would require maintaining a neutral or critical

> thinking approach in SE/CE integration, raising questions of ethics but allowing learners to make those decisions for themselves (Statement A16).

It was expected this debate would be a key point of conversation in the study, and while it was the focus of two to three statements, it did not feature in the Delphi as much as anticipated. One reason for this may be that the CE experts in the Delphi simply do not view an anti-democratic stance as part of CE: 'Avoiding brainwashing is probably the least of the worries for those involved in either CE or SE' (CE expert Shaun's comment on Statement B6).

It seems apt here to briefly visit the academic discourse in CE and also citizenship education, in relation to this issue (see the Introduction above in relation to the discourse in SE). In his 2013 article 'Ten myths about character, virtue and virtue education – plus three well-founded misgivings', Kristjánsson, a character educationist, addresses the 'persistent myth' that 'Education in character is Anti-democratic and Anti-intellectual' (p. 9). He essentially argues that although character education at an early age may aim to create ethical 'habits' in learners, it also aims 'to produce critical and independent moral choosers … capable of autonomous engagement in rational moral conduct' (Kristjánsson, 2013, p. 9) – something that emerges, and is actively encouraged, in older learners when it is more appropriate in terms of their development. In line with this, one CE expert, Irving, stressed critical thought needs to include an understanding of values and the reasoning and emotions involved in forming opinions – which could in fact be a potential avenue of integration for SE and CE.

Others within the CE discourse view CE as intertwined with citizenship and democracy; for example, Peterson (2020) argues that a properly framed (Aristotelian) CE is concerned with a well-functioning political community, involving practices and institutions that support deliberative citizens. Peterson (2020) also claims that democracy unavoidably involves morality, and 'When pupils are engaged in their communities, including in deliberation with others, such engagement is not separate from questions of who they are and who they wish to become' (p. 153) and their participation is an expression of their character. Furthermore, 'the possession of intellectual and moral virtues affects the level and quality of participation within the community' (Peterson, 2020, p. 148), particularly in regard to virtues such as honesty, compassion, gratitude, and kindness, as well civic virtues such as tolerance, and open-mindedness. Peterson's (2020) remarks perhaps represent the thinking amongst the CE experts, and character educationists more generally, in that they do not see the same divide between democracy and normativity, or morality, that is represented in the ESD 1 and ESD 2 debate within SE (see Introduction above).

Interestingly, somewhat conversely, the Delphi saw all experts denounce value-free education/schools in Statement B8 (67% SA, 33% A):

> The idea that schools should be value-free, neutral environments is untenable, and ethically questionable given what is at stake. No education is value free, and schools teach values and norms over the entire school day no matter how it is organized. The instrumental take on education reflects certain values for example. Ethics, values and questions of character are central to school education – it is the kinds of values that are reproduced, and how these would be agreed upon, that may be more in question for SE and CE

Supportive of this, Lapsley and Narvaez (2007) argue that teaching and learning are value-laden activities and moral considerations are inherent to the life of schools. Similarly, Kristjánsson (2013, p. 8, see also Kristjánsson, 2015) challenges the misconception that: 'the character of children can simply be held in abeyance at school until they reach the age where they have become wise or autonomous enough to decide for themselves' and argues: 'When formal education in character does not occur, virtues and vices will still be *caught* even if they are not directly *taught* … Character education will always take place there … although it can obviously be done either well or badly'. Statement B8 conveys the experts' belief that instrumental education reflects certain values, and arguably also promotes them. As discussed in the introduction above, both Kretz (2014) and Bonnett (2003) draw attention to the powerful individualistic, consumerist, and competitive influences appropriating westernised education and impacting students (See also Kopnina, 2014).

Overall, experts' comments suggested support for a balance between normativity, and democracy and pluralism, and emphasised the importance of critical thinking being developed throughout education. The question remains of how to allow learners to stay open to different possibilities in a democratic setting, when such a setting is heavily influenced by existing, and in many cases neoliberal, values and cultural norms – influencing not only the learners but also the inclusivity of the democracy being practiced[4] (See Hursh *et al*., 2015, for an overview of the influence of neoliberalism in education and SE specifically).

Theme 3: Individualism vs. collectivism.

Another reservation about SE and CE integration expressed by the experts was the perceived individual focus of CE. Statement B1 (66.7 A, 33.3% N) describes the issue:

> SE and CE can be perceived as having different underpinning philosophies – the former communitarian, the latter individualistic – potentially acting as a barrier to their integration. However, it is a classic misconception of CE that it is inherently individualistic: the goods of the individual cannot be parsed out from the goods of the community, and CE requires virtuous communities to build up individuals in virtuous behaviour. CE asks learners to consider themselves as individuals as part of society and encourages reflection on communities as collections of individuals and exactly what that implies for character development.

It was acknowledged that Statement B1 above may be more an aspiration than a reality, and that there was a need for more attention to be given to the social and cultural context of character attributes, and how places can support or obstruct changes or the status quo. This relates to the ideas above about the powerful influences of neoliberalism in westernised societies, and also to the debate over individual versus collective/social action that is often discussed in SE.

Related to this, all experts agreed 'a right wing or neoliberal interpretation/drive of CE' fostering 'agency, resilience and self-confidence in individuals and society may be at odds with the efforts to create a more sustainable world' (Statement B4). However, CE expert Shaun commented: 'We ne[e]d to presume that an individualistic, right-wing theology about CE is a contradiction in terms' (see Kristjánsson, 2013), and CE expert Irving referred to CE being co-opted and 'distorted' by those with an agenda. The sense among these CE experts that CE is inherently about the good of society, and thus, by its nature would, or certainly could, confront the individualistic nature of neoliberal society's norms. However, it should be noted, as stated in the Methodology above, there was a leaning, though not exclusivity, towards a neo-Aristotelian approach to CE within the CE experts, and therefore their views on individualism in CE are heavily influenced by that approach and may not be representative of other approaches to CE.

Theme 4: Relationship with nature.

Experts highlighted the need for CE, and SE, to more actively foster awareness of self as part of nature, or the more-than-human:

> SE/CE integration could heighten awareness of our belonging to nature, and how self, society and nature is interconnected. CE could be usefully reframed to consider our place in the natural world, benefitting not only learners, but the future population and planet as well. SE could benefit from a more affective approach to learning. SE/CE integration could help foster an emotional attachment to the natural world, which is critical for deep personal change toward sustainable living, but which can also bring benefit in terms of wellbeing (Statement A9, 33% SA, 56% A, 11% D).

CE expert Shaun commented that 'Awareness of self in nature is part of awareness of self in general' and that this 'could easily become a key point of intersection between CE & SE' (comment on statement A9). However, CE expert Irving questioned whether 'CE needs to be re-framed to achieve this: the virtues already encompass our impact on our planet' (comment on statement A9). Therefore, perhaps the meaning to be taken here is not so much a need of reframing, but of ensuring the virtues are, or thinking in CE in general is, extended to the natural environment. Linked to this, Sterling (2001, p. 53), in reference to ecological thinking and SE, states that we 'need to widen and

deepen our boundaries of concern' and to recognise 'broader contexts in time and space' that include '"the other" in our thinking and transactions' be that neighbour, community, distant environments and peoples, non-human species or the needs of future generations. This suggests an approach for CE in terms of integrating a SE perspective: to widen and deepen the boundaries of concern – in other words, to ensure that the environment is included when considering character, the virtues, and conceptions of flourishing (see more on flourishing below under the theme 'Purpose of Education').

Sterling (2001) stresses that the nature of our widened concern must be more in line with an ecological worldview that recognises that human and natural systems are co-dependent and co-determining and can be taken to reject an anthropocentric relationship with, or mastery over nature. This connects to ideas within ecofeminism (which likens the 'mastery' approach to the environment to the suppression of women and other minorities) that assert humans are members of an ecological community, but are also separate entities in some respects (Plumwood, 1991; Warren, 2001). Kretz (2009, p.131) talks of viewing the human self as an intact individual, but also one 'situated in ecologically relevant wholes of which we are a part'.

Another angle on the relationship with nature revealed in the Dephi was that of eco-citizenship. Experts agreed that participation and taking-action 'towards the creation of a sustainable future should be common to both SE and CE' (Statement A5), and CE's emphasis on service and good citizenship could be infused with SE's sense of an environmental citizen. Again, here we have an extension of boundaries of concern (Sterling, 2001), from predominantly social to environmental concern and thus environmental citizenship.

Theme 5: Interdisciplinarity/Holistic education.

Consensus on statement C5 (60% SA, 40% A) revealed all experts agreed an interdisciplinary approach in education would facilitate integration of SE and CE. SE expert Timothy commented that 'Interdisciplinary working would be the most fertile ground for this blended approach to flourish' (Comment on statement C5). A related point of agreement, statement A8 (78% SA, 22% A) referred to real-word learning:

> Opportunities for integration of CE and SE exist through real-world and action-oriented learning, which provide a richer context and connect to learners' real-life experiences.

Real-world learning is a natural means of interdisciplinary learning. Although interdisciplinary education can be implemented somewhat superficially, more akin to multi-disciplinarity or cross-disciplinarity, the sense within the Delphi was one of a need for holistic education, which incorporates interdisciplinary curricula and real-world learning, as well as whole-systems thinking,

cooperative learning, critical thinking, school as community, and experiential learning (Forbes, 1996; Forbes and Martin, 2004). Many in the SE field have called for a more holistic form of education; see, for example, Sterling (2010, 2014).

Unlike most contemporary westernised education, the holistic education approach integrates academic and 'non-academic' aspects of education and considers the emotional, social, cultural, and moral development of pupils as essential as their 'cognitive' development. It is often described as educating for the head-hands-heart or whole-person education. Holistic education's focus on educating the emotional, social, and moral development of pupils could be seen as containing character education elements, though its proponents and practitioners would not necessarily describe it as such (See Lapsley and Narvaez, 2007, on CE as outcome rather than treatment).

A theme running through the experts' comments on various statements suggested that a move towards interdisciplinary, holistic education generally would perhaps be a better approach than focussing on CE-SE integration specifically. For example, SE expert Timothy stated: '[there are] clear benefits of creating a blended pedagogy – for simplicity shall we call it "education"?' (Comment on Statement A5). A holistic education approach would entail integrating CE and SE aspects, as well as a shift to a more interdisciplinary, real-life based, experiential, cooperative, and whole-school education approach (Forbes, 1996; Forbes and Martin, 2004).

Theme 6: Purpose of education.

A theme found throughout the Delphi, was of the need to examine the purpose or aims of education. The most agreed upon statement, B9 (80% SA, 20% A), dealt with the issue of instrumental/exam-driven schools:

> Instrumental/exam driven schools and a narrowing of the curriculum to focus on 'core subjects' (due to competitiveness, inspection frameworks, austerity, etc.), coupled with a lack of discussion on the purpose of education act as barriers to integration.

In relation to this, in his 2004 book, *Earth in Mind*, David Orr began by asking: What is education for? And went on to deride westernised education that aims to produce so-called 'successful' individuals:

> The plain fact is that the planet does not need more successful people. But it does desperately need more peacemakers, healers, restorers, storytellers, and lovers of every kind. It needs people who will live well in their places. It needs people of moral courage willing to join the fight to make the world inhabitable and humane. And these qualities have little to do with success as our culture has defined it (Orr, 2004, p. 12).

Elsewhere, Orr (2001) criticises education that aims to prepare individuals for careers in the global economy while the world deteriorates, and reasons we must

reclaim education from those that intend it to be homogenized, standardized, and industrialized. Many consider the instrumental, exam-driven approach in westernised education to be detrimental to sustainability efforts; it does little to prepare learners for living in a future that will face a multitude of complex sustainability issues, e.g. climate change, collapsing fishing stocks, loss of biodiversity, etc. Furthermore, an emphasis on preparing learners for the workplace denies learners the time and space to fully develop as individuals, community members, citizens, and moral agents.

Returning to our Delphi experts, although there is agreement on the need to focus on the purpose of education, it is another issue entirely to agree on that purpose. Statement B3 (33% SA, 67% A) highlighted existing issues in respect to SE and CE specifically, but also revealed the potential for forming a joint purpose:

> It should be recognised that tension may currently exist between SE and CE proponents in terms of the central core purpose of education i.e. sustainability vs. young people leading fulfilling lives. This misconception needs to be addressed. Work must be done to show that to truly lead fulfilling lives we need a healthy planet, and how living sustainably, in community with all life, and pursuing *eudaimonia* (human flourishing) are all part of the same project.

Experts' agreement on this statement reveals common ground between SE and CE: the concept of flourishing. Recently, the concept of 'Flourishing' has resurfaced as a discussion point across multiple research fields, significantly as 'Flourishing-as-the-aim-of-education' (See Kristjánsson, 2017; Narvaez, 2015). Extending the concept of flourishing, which ordinarily refers only to individual and societal flourishing (Narvaez, 2015), to be more in line with sustainability, offers a potential avenue for integration between the SE and CE fields in terms of the purpose of education. As CE expert Deborah commented on Statement B3: 'It's not just young people living flourishing lives, but the whole human community and the whole biocommunity'. This idea links to the argument for widening and deepening our boundaries of concern (Sterling, 2001) discussed in relation to the *Relationship with nature* theme, and is likewise applicable when considering conceptions of flourishing. In relation to this, Kristjánsson (2020, p. 171) states 'a theory of flourishing could easily be extended to those beings and indeed to the flourishing of the life world as a whole. Such a unified theory would have obvious educational implications' (See also Narvaez, 2015).

4. Conclusion

I stated at the beginning of this article, although fostering values is promoted within SE, many educators appear concerned or conflicted about how, or whether, to approach values education. I argued interdisciplinary research, drawing on practical and theoretical insights from CE, could produce a more comprehensive understanding of the issue and contribute towards addressing the

problem. To this end, a Delphi study sought to gather expert opinion on the feasibility of integrating theoretical/practical insights from the CE and SE fields.

While this study does not offer a conclusive answer to the question of how feasible CE-SE integration is, it does reveal areas of common ground in terms of theory and practice e.g. eco-citizenship; and in terms of mutual concerns/challenges e.g. exam-driven education and the influence of neoliberalism in education, thereby indicating potential future collaboration in terms of addressing the values aspect of SE, and the environmental aspect of CE, as well as jointly working towards shared goals.

However, the findings also highlight the concern that especially SE educators feel in regards to normative concepts and their tension with democracy and pluralism, while at the same time emphasising that no education is value free, suggesting an area where SE and CE could benefit from integrating insights to gain better understanding of this tension, and how to teach in light of it. The study also uncovers SE experts reservations regarding a perceived individual nature of CE. The findings also reveal that, at least some, CE practitioners and academics are also wary of individualised versions of CE (See Peterson, 2020). However, the findings strongly indicate that the CE field needs to better address persisting concerns regarding its individual focus, by actively emphasising a societal and environmental focus.

This study also raises important questions regarding the need to address the purpose of education. Flourishing-as-the-aim-of-education could offer an avenue of integration between the SE and CE fields. Repko and Szostak (2017, p. 245) identify 'extension' as a strategy for integrating interdisciplinary insights (be they assumptions, concepts, theories and/or methods) from different sources. In terms of this study, the findings suggest that there is potential for the extension of the concept of flourishing from a typically human focussed idea to one that includes nature.

Additionally, this research also questions whether specific CE-SE integration is needed, or whether a joint effort towards fully interdisciplinary and holistic education, encompassing CE and SE would be more fruitful.

5. Limitations

In terms of the method, there were a limited number of participants, as is customary with a Delphi study. However, this should be kept in mind when viewing the findings. Although every attempt was made to gather a broad range of opinions, as mentioned in the methodology section, there was a leaning, though not exclusivity, towards a neo-Aristotelian approach to CE within the CE experts. Additionally, there would inevitably have been a degree of response bias, i.e. those individuals interested in the topic would have given time to the study. A larger, perhaps survey-based study in the future, could gather opinion more widely.

It was attempted to remain as impartial as possible throughout the Delphi, particularly when constructing and refining statements. Producing statistics for the statements in terms of levels of consensus certainly aided this, and every attempt was made to include all perspectives (even though this had some negative consequences in terms of the complexity of statements, see below). However, researcher interpretation is never truly objective, and therefore I encourage readers to make their own interpretations of the data.

One of the major limitations of this Delphi study, and perhaps all Delphi studies, is that agreement on broader concepts can belie underlying disagreements on more specific points. As one expert commented: 'The devil is in the details of what should be taught' (Deborah, comment on Statement A1). There was a great deal of 'yes, but … ' commenting. To attempt to counter this, specific disagreements or interpretations that were hidden under a general agreement on statements, were often incorporated into the statements in the subsequent round, or occasionally made into new statements where appropriate. These new statements remained contentious, and it is important to acknowledge them as a part of the study as a whole. The thematic analysis attempted to include these 'Yes, but … ' disagreements/comments. It is possible the contentious statements would have benefitted from another round, allowing a movement towards consensus. However, incorporating various comments into refined statements often led to multiple points within a single statement. Several statements received comments that they were 'unclear', though others were considered 'much improved' from the previous round.

Linked to this, the fact the Delphi study was carried out via email meant perhaps experts paid less attention to others' comments as there were many statements, additional comments, and statistics presented. If the Delphi had been carried out in person, there would likely have been much more to-and-fro between experts, although in-person Delphi studies have the disadvantage of being susceptible to 'domineering voices'. It might have been wise to reduce the number of statements; however, the study sought to represent the desired talking points of the experts, and it would have been problematic to choose between statements.

One important point, that was brought up succinctly by one of the experts was that: 'There is no one "the education system" but a variety of different priorities, pedagogies and sociocultural expectations … This is a challenge for this Delphi exercise as we are coming from a range of cultural positions' (Sandra's comment on Statement C10, Round 3). So, for example, where statements were referring to education or systems, experts were responding from their own perspectives and context. The statements were purposely kept general, though any implications would inevitably be very particular to the given context, something to bear in mind when viewing the findings.

In summary, the findings that I have presented suggest common ground between the fields of CE and SE that could lead to future collaboration and

potential integration in terms of addressing the values aspect of SE, and conversely the environmental aspect of CE, as well as jointly resisting/disrupting the neoliberal influence and exam-driven turn in education and reigniting debate on the purpose of education – areas where it would be fruitful to pursue further interdisciplinary research. If we are to realise sustainability, academics and practitioners in all fields need to actively reach out and embrace other fields in their sustainability efforts. Beginning this conversation between the CE and SE fields, revealing their commonalities, and indicating where differences could be bridged and misunderstandings addressed, has itself been a step towards integration.

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Notes

[1] The different statements and comments were diverse and broad in focus; therefore, themes represent reoccurring topics and key discussion points in the Delphi, rather than attempting to summarise or provide a complete view of the whole data set. The statements that achieved consensus in Table 1 provide a more detailed view of the data.

[2] This theme also relates to one of the agreed upon barriers to SE-CE integration: a narrow view of SE as only environmental science (Statement B5). Orr (2004, p. 60) argued sustainability issues are 'fundamentality about morality' and questioned the effectiveness of a solely technical-scientific approach to [sustainability] education.

[3] Throughout the paper, experts have been given pseudonyms in order to preserve anonymity.

[4] As mention in the introduction, in terms of sustainability, Kopnina and Cherniak (2016) argue that 'democratic' or 'pluralistic' approaches, which side-step advocating for the environment, are in fact undemocratic in regards to the environment – by denying 'more-than-humans' a voice and thus practicing an anthropocentric form of democracy. They propose 'inclusive pluralism' (p. 829), which includes eco-representation and calls for ecological justice for all entities. Elsewhere, Kopnina (2014) proposes education for deep ecology, which would foster a frame of mind that includes non-humans in democratic thought and in one's sense of justice.

ORCID

Karen Jordan School of Education, University of Iceland, Reykjavik, Iceland http://orcid.org/0000-0002-4569-5171

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Correspondence Karen Jordan, School of Education, University of Iceland, Skipholt 37, Reykjavik 105, Iceland
Email: karen@hi.is