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Brief Report

Refocusing Environmental Education in the Early Years: A Brief Introduction to a Pedagogy for Connection

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Abstract: The aim of this article is to introduce an effective, evidence-informed, and developmentally appropriate framework of practice for Environmental Education (EE) in the early years, with the ultimate goal being to achieve environmental sustainability. Initially, the author will briefly examine the current state of EE in the early years, contextualising it within a gradual shift from EE to the more encompassing Education for Sustainable Development (ESD). The article then proposes that there is a need for a refocusing of EE in the early years that has as a central goal—the promotion of nature connectedness, benefiting both the next generation of learners, as well as our planet. A four-point draft of a pedagogy for connection will be outlined that comprises sustained contact, engagement with nature’s beauty, cultivation of compassion towards non-human nature, and mindfulness. The latest empirical research from ecopsychology and developmental psychology will be used throughout in order to synthesise this brief initial draft of a pedagogy for connection.

Keywords: environmental education; sustainability; early childhood; nature connectedness; pedagogy; ecocentric education

1. Introduction

The United Nations declared the first part of the 21st century (2004–2015) as the Decade of Education for Sustainable Development [1]. This declaration marked a shift that began in the 1980s which some [2] saw as a replacement of Environmental Education (EE) with the broader concept of Education for Sustainable Development (ESD). Others made a clear distinction between the roles of EE and ESD [3], seeing EE as a distinct form of education separate from, but related to, ESD. Whichever way the move was interpreted, what is clear is that it signalled a subtle but real shift away from the ecocentric goals of EE towards a more anthropocentric drive for development [4].

This article aims to assist in refocusing EE—especially as this pertains to the first years of education, in early childhood—as an education *in, for, and about* the environment [5]. Moreover, it wants to reinstate environmental sustainability and positive changes in learner behaviour EE’s ultimate goals [6] and, finally, briefly draft a pedagogical framework that is based around the building of relationships between human and non-human nature, bridging the notional divide. The construct of nature connectedness will be central to this framework, and the latest evidence from environmental psychology will be used to outline ways that promote such a connection with nature. Additionally, some developmentally appropriate pedagogical practices will be suggested.

Responsible environmental behaviour (REB) has commonly been seen in the past as a worthwhile goal for EE programmes [7,8]. ESD has similarly been focused on REB, although the pedagogical aspects of how to achieve this have not commonly been articulated [9]. The framework proposed here attempts to put REB, through its positive association with nature connectedness, at the centre of EE in the early years.

Early years' education has always placed great emphasis on the environment, in both indoor and outdoor education (Pestalozzi, Froebel, Montessori, Dewey, etc.). Moreover, access to the natural environment, in the form of outdoor learning, has become an important part of several early childhood curricula and frameworks, such as that of England [10], Scotland [11], Australia [12], and parts of Canada [13,14].

This movement towards greater access to the outdoors and natural environments has further been strengthened by research conducted at the end of the 20th and the beginning of 21st century, confirming a number of benefits for children who have regular contact with the outdoors [15]. In fact, these social, emotional, and cognitive benefits are a distinct driver and motivation for the inclusion of outdoor learning in curricula around the world. This has led to a rapid growth of outdoor preschools, many of them in natural settings, in many of the industrialised countries, including Germany [16], Denmark [17], and the United States [18] amongst others. This article is, therefore, a timely addition to the international literature that can help to provide a direction in which early years' education in the natural environment can move towards. The author hopes this will be useful for practitioners, as well as researchers.

To a large extent, this growth has, so far, been driven by an anthropocentric pursuit of the purported benefits to humans of spending time in natural environments. While these benefits are of paramount importance, a more ecocentric, post-humanist approach to education can emphasise the infinite benefits for nature and the possibilities for REB via the strengthening of the bond between human and non-human nature [19]. In this sense, non-human nature can move away from being used merely as an instrument in the development of the child and, by taking a post-humanist perspective towards education, it can become a vital part of an EE that will benefit both humans and non-humans alike.

This article proposes that an ecocentric orientation could rest upon the construct of nature connectedness for the articulation of a distinct pedagogy that will aim to bridge this notional divide between humans and non-humans, and encourage children to feel that they are part of nature. In this way, education can be considered more from a point of view of relationality and interconnectedness, of building a meaningful relationship, and less from the point of view of gaining knowledge and understanding. Previous research on children has found that connectedness to nature has been a stronger driver of ecological behaviours than environmental knowledge [20]. This pedagogy of connectedness, articulated below using recent experimental evidence from ecopsychology, is particularly suited to early childhood which has been identified as a key time when skills, like empathy, emerge and are nurtured [21]. Moreover, this initial development of empathy in early childhood has been found to predict later pro-social behaviour [22]. Using this as a basis, this article argues, from a theoretical perspective, that nurturing early childhood empathy towards non-human nature could predict later pro-environmental behaviours and compassion towards non-human animals.

Although there is currently no empirical data to support this as it relates to early childhood (3–8 years of age), two key articles have explored the relationship between pro-environmental behaviours and beliefs, and childhood experiences up to the age of 11 years. The first, a retrospective study of approximately 2000 US adults, linked natural experiences in childhood with adult environmentalism [23]. The second was a paper that further linked time spent outdoors, nature connectedness, and environmental stewardship in children [24]. Both identified that a closeness to nature, either through behaviour or nature connectedness, was associated with environmentally protective behaviours. Other studies have also linked emotional affinity to nature and nature-protective behaviours [20,25,26].

Pro-environmental behaviours cannot fully be explained by cognitive factors, and affective factors and emotional motivations also play distinct roles [25]. The value–belief–norm model [27] purports the idea that it is values that activate cognitions, which further produce personal norms in relation to environmental behaviours. Studies have further linked nature connectedness with such values [28,29].

Developmentally, early childhood is a good time to promote empathy and pro-social behaviours [21]. This short communication aims to outline some of the ways by which EE in the early

years can be underlined by the construct of nature connection. In this way, EE in the early years is refocused to include a strong element of *for* the environment [5]. Moreover, with nature connection as a distinct aim of early years' EE, aspects of a pedagogy for connection to nature and to non-human animals will be briefly outlined.

2. A Pedagogy for Connection

The first draft of a pedagogy for connection that will be presented below is partly based on Lumber et al. [30]. They undertook three studies, grounded on the biophilia hypothesis [31] to identify the pathways through which nature connectedness is achieved. This is further enhanced by literature from developmental psychology, and further evidence from the fields of ecopsychology. Lumber et al. [30] identified the following pathways to nature connection: contact, emotion, meaning, compassion, and beauty. Figure 1 outlines the four main elements and their interrelation.

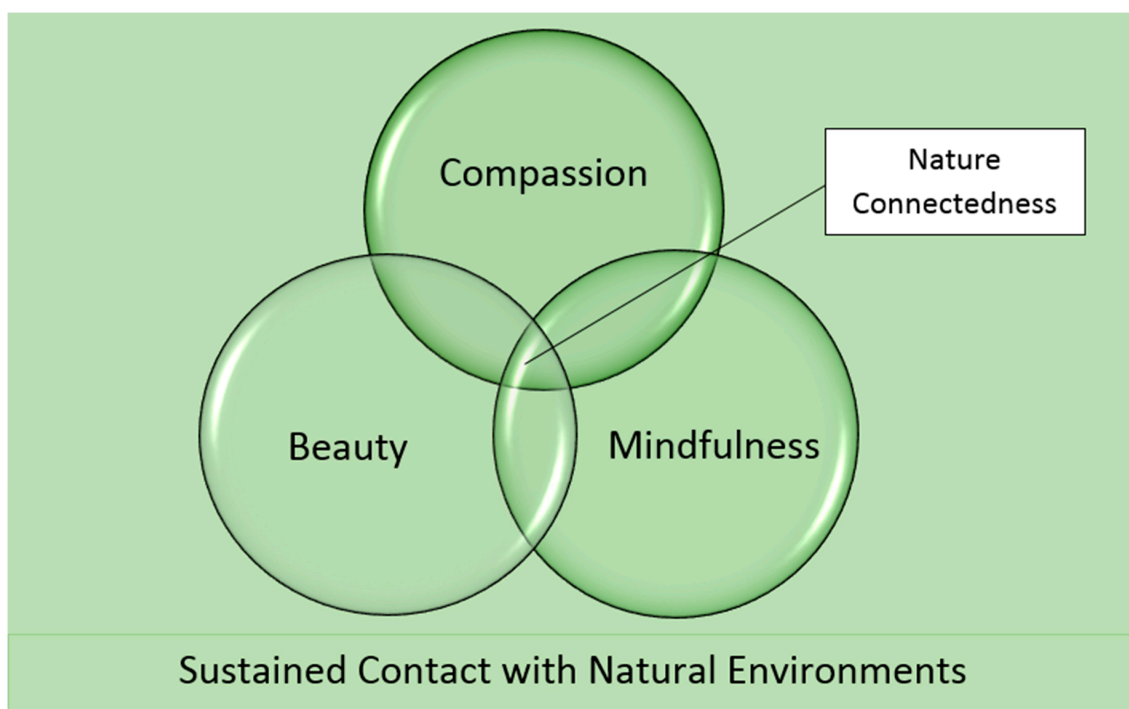


Figure 1. Schematic representation of the framework for a pedagogy for connection.

Based on these elements, the following foundational guidelines for a pedagogy for connection can be articulated.

2.1. Regular Contact with Nature

Having regular access to natural spaces, both wild and managed, should underpin all early childhood education [32]. This is especially true for any EE programmes that focus on connecting with nature, thus remaining true to the original aims of early years' EE as an education *in* and *about* the environment [5]. Contact with natural environments has been identified as a pathway to connecting with nature [30]. Physical and adventurous activities in nature have also been found to promote nature connection [33]. For this reason, regular and sustained contact with natural environments should be central to an EE pedagogy for connection. This feature is already in place in many early childhood EE programmes, as well as some mainstream early childhood pedagogical approaches in numerous Western countries, and will not be developed any further in this article. As shown in Figure 1, contact, although a separate pathway to connection, is seen as a constant and a prerequisite for developing the other three aspects. These three specific aspects of connection—namely engaging with nature's

beauty, developing compassion towards non-human species, and the practice of mindfulness—will be explored further below.

2.2. Engaging with Nature's Beauty

The aesthetic appeal of nature plays an important role in promoting a connection with the natural world [30,34,35]. Being able to notice and engage with beauty in the environment, should, therefore, be a focus of a pedagogy for connection. This appreciation for natural beauty may take many forms, from simply noticing and noting (see here the links with mindfulness below), to capturing nature's beauty in various artistic forms. An easy way to incorporate such a practice in an early years' programme would be to spend some time each day noticing three beautiful things in the nearby natural environment, and discussing them with a practitioner. Such an activity has been used as an intervention that showed marked changes in nature connectedness in adults [36] Finally, engaging with nature's beauty through art has also been found to enhance nature connectedness in children in an empirical study [37], further supporting the argument made in this section.

2.3. Developing Compassion for the Non-Human

Compassion is a complex mental state that begins to develop in childhood and continues to develop throughout the lifespan [38]. The following key elements of compassion have been identified in the past: "(1) Recognizing suffering; (2) Understanding the universality of suffering in human experience; (3) Feeling empathy for the person suffering and connecting with the distress (emotional resonance); (4) Tolerating uncomfortable feelings aroused in response to the suffering person (e.g., distress, anger, fear) so remaining open to and accepting of the person suffering; and (5) Motivation to act/acting to alleviate suffering" [39] (p. 19).

As is clear, the definition above focuses on the human element, but the author proposes that there is no reason why this definition cannot be used as a framework for nurturing compassion towards non-human nature. Past research has indeed linked empathy towards humans and empathy towards animals [40]. There are many ways that compassion can be nurtured in early childhood. Several that have been supported by the literature include direct contact with, and care, for non-human animals [41], encouraging quiet observation of animals in their natural environment [42], encouraging perspective taking, which is the first step towards developing empathy [43] and, finally, anthropomorphising nature [44,45].

Anthropomorphism is the process of attributing human qualities to non-human entities (both living, non-living, and abstract). This process of anthropomorphising nature has been found, in several experimental studies, to promote nature connectedness and protective feelings towards the natural world, fostering conservation behaviours [46]. Although these studies have limitations in that they sampled undergraduate students, further research on young children could shed more light on this association. However, we can hypothesise that the process of anthropomorphising may facilitate perspective taking and, therefore, empathy, the third element of compassion as per the definition above [39]. Finally, it may enhance motivation to act in a compassionate way, the fifth element of compassion [39].

2.4. Practising Mindfulness

There is a growing body of evidence that explores the associations between mindfulness and nature connection [47–49], and significant links have been found between mindfully engaging with nature and nature connectedness [48]. Moreover, earlier research has linked mindfulness with sustainable behaviours [9,47], with the proposed mechanism being that mindfulness promotes better self-world connection and awareness of actions, leading away from automaticity and resulting in a greater ability to regulate one's behaviour [50,51].

Although there is no evidence for mindfulness in nature interventions in preschoolers, there are several studies in adults that demonstrate links between mindfulness and connection. A recent

study of 115 undergraduates reports that engaging with mindfulness, even outside of a natural setting, can increase both social and nature connectedness [52]. Moreover, learning mindfully, which is characterised by openness in thinking and perspective taking amongst other features, was associated with an increase in nature connectedness, both in affective and cognitive terms [48].

There is a dearth of mindfulness programme evaluations in the preschool age range, and certainly none to date have looked at nature connection or mindfulness within a natural environment. However, in a study conducted on preschool children in the United States, researchers observed that a mindfulness-based 12-week-long kindness curriculum significantly increased pro-social behaviours and emotional regulation [53]. These two skills are certainly linked with nurturing compassion, as was outlined above. Finally, engaging with nature mindfully could have the desired effect in providing the skills to appreciate nature's beauty more deeply [54]. This further links to the second point in the framework.

3. Conclusions

This short article aimed to use existing evidence from the literature to outline a framework for early childhood EE that places connection to nature at its core and has environmental protection as its ultimate goal. Central to the proposed framework—besides regular contact with nature, which is already a common feature of early childhood education practice in many countries—are the elements of engaging with nature's beauty, cultivating compassion towards non-human nature, and mindfulness. These four elements, as outlined above, have several areas of intersection between them.

Although the framework is primarily constructed upon current empirical research, there are, inevitably, several limitations. The most notable limitation stems from the fact that a substantial amount of the evidence is largely taken from studies with adult participants, most commonly students. This may affect their generalisability to children in their early years. Moreover, some studies looking at childhood experiences are retrospective in design, again, with adult participants. This also presents methodological limitations.

Future research in this area should focus on two axes. One would be the development and validation of a measuring instrument for nature connectedness that can be used with children in the early years. The second axis should focus on measuring the effect of the practices outlined above on children's relationship with nature, compassion towards non-human nature, and pro-environmental beliefs and actions. Such studies would ideally be longitudinal in design to capture the effects of such early childhood EE programmes that ultimately focus on sustainability behaviours.

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