

Educating for Ecophilia through Nature

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Abstract

The purpose of this paper is to explore the meaning of ecophilia and its contributions to education. By discussing E. O. Wilson, D. W. Orr and the other scholars' views, this paper points out that one of the educational problems is the underpinning assumption of 'ecophobia'. Ecophobia results in the human alienation from nature as well as the ideology of human domination over nature. This leads to the hostility between human beings and nature. This paper argues that ecophilia should take the place of ecophobia and be taken as an aim of education. The concept 'ecophilia' means the closeness and positive coexistence between human beings and nature. Ecophilia as an aim of education could evoke reflection upon how people do towards nature and the fostering of the reconciliation between humans and nature. Three relationships between humans and nature are suggested as the approach to the education of ecophilia.

Keywords: ecophilia, ecophobia, nature

Introduction

The purpose of this paper is to argue that ecophilia—the affiliation with nature—should be taken as an aim of education. The affiliation with nature or the positive emotions for nature have been ignored in our current education. Many authors have pointed out that human alienation from nature is a deep-seated crux of the environmental crisis. What needs more notice is that the established educational practice pays little attention to this separation and even explicitly or implicitly fosters this separation. The fostering of the human/nature separation is what I call ecophobia. One of the remedies is to repair the relationship between humans and nature, transforming the education of ecophobia into that of ecophilia.

Based on the above, the following parts consist of the discussions of the human/nature separation in the present education, the meaning of ecophilia through exploring biophilia and the education for ecophilia.

The human/nature separation in schooling

Due to the devastating environmental problems, there has been an increasing stress on the importance of environmental education all over the world. Yet the environmental education might be implemented in the way that does not connect but disconnect children from nature. David Sobel (1996) points out that children learn environmental education in schools, they do not learn how to contact with nature positively, instead, they learn to fear and keep distance from natural world because the frightening natural disasters are often taken as representative of nature. In other words, children learn 'ecophobia'—the aversion of nature—rather than 'ecophilia'—the love of nature (Hung, 2008). The other important reason, for Sobel, is that learning about nature in schools is 'premature abstraction'—school children are taught in a very abstract way when they are too young (Sobel, 1996). This does not mean that children learn to think or speculate abstractly but that there is insufficient concreteness in the process of learning. For example, pupils learn about nature through textbooks rather than their concrete contact with nature. They know about the importance of environmental conservation because they are told so by parents and teachers, not because they feel the need internally due to some personal experiences.

Sobel's view is consonant with the findings of many studies in Taiwan in some sense. There are five fundamental aspects of environmental education based on the national curriculum guidelines: environmental awareness, knowledge, ethics, action skills and practical experiences (Ministry of Education, 2006).

According to many recent studies (Chen, 2008; Hang, 2001; Huang, 2008; Liao, 2006; Tu, 2006), textbooks popularly used in schools in Taiwan pay the most attention to environmental awareness and knowledge, less to environmental ethics, and least to the action skills and practical experiences. This result is consistently found in several studies conducted to analyse textbooks for primary and secondary schools and the subjects range from language to natural science studies.

Those studies do not offer explanation for the findings. However, in my view, there could be two reasons why environmental awareness and knowledge occupy more space in textbooks than environmental ethics, action skills and practical experience. Both reasons assume the idea of ‘premature abstraction’. First, there is a strong tradition of credentialism dominating the Taiwanese schooling system. The credential schooling system results in the partial preference for intellectualistic learning. Memorisation of knowledge becomes the most important objective in schools. Under this tradition, many adults mistake learning as the mere acquisition of knowledge. Practice and action are often ignored because they are difficult to be tested and do no help for passing entrance exams. Secondly, in many traditional educators’ view, schools are the ‘pure place’ free from ‘social contamination’. This quasi-essentialist’s view was once the main philosophy of education for many teachers. The environmental problems in this view are taught as if they are value-neutral and social-political context free. In order to keep children’s learning away from the social ‘intervention’, environmental practices and actions which are indeed embedded in the social-political context are given little space in textbooks. The intellectualistic and essentialist tradition of the Taiwanese schooling thus depends greatly on the learning by memorisation in class—the rote learning dominates classrooms.

In this sense, the environmental knowledge or awareness that children learn about are abstract and disconnected from real life and the natural environment. Losing concrete connection with social-political context, environmental education in the Taiwanese schools hardly directs pupils to learn about environmental actions and practices, easily focusing on knowledge and awareness only. Sobel (1996) reminds us that environmental education characterised by abstraction could foster ecophobia rather than ecophilia since pupils feel impotent and helpless when they learn about the natural disasters. Separated from the real world, children feel helpless to do anything about the real problems. The sense of helplessness and hopelessness nurtures ecophobia. Furthermore, the partiality of indoor learning disconnects pupils from nature. Environmental education in this tradition limits pupils to learn about nature in a very ‘unnatural’ way and hardly bring up their affinity toward nature. In David Orr’s (1992) words, such education merely aims to enable students to be literate, e.g., be able to read, write, count and compute, but falls short of enabling them to be ecologically literate—to question deeply and widely. There are some difficulties for fostering education of ecological literacy:

1. Education for specialisation dominates the development and policy of education. The confidence in specialisation undermines the ability to think broadly and deeply which is important for awareness of interrelatedness.
2. Education is believed to be an indoor activity. The learning about environment and nature must take place in the real environment and nature, not only in the classroom.
3. The current education ignores the capacity for aesthetic appreciation. Destruction of environment is to make it ugly, very unpleasant to look at and to produce disharmony between environment and people. Ecologically illiterate education ignores the disharmony and ugliness while ecological literate education aims to sensitise people’s feeling and appreciation for environment. (Orr, 1992, pp. 87-88)

In order to develop an education for the appropriate human/nature relationship as well as to teach children to be ecologically literate, I propose the concept of ecophilia as a key (Hung, 2008). The term ‘ecophilia’ is inspired and adapted from E. O. Wilson’s (1993, p. 31) ‘biophilia’, meaning ‘the innately emotional affiliation of human beings to other living organisms’. I attempt to stress that the appropriate relationship between humankind and nature does not only include living beings but also non-living factors. In Abram’s (1996) term, the world is ‘more-than-human’. Thus I coin the word ‘Ecophilia’ from ‘eco’—from Greek ‘oikos’,

meaning ‘dwelling place, house, and inhabitation’—and ‘philia’—from Greek ‘philia’, meaning ‘affection, and loving’ to express ‘the love of dwelling place’ (McIntosh, 1985). However, ‘eco’ (oikos) is widely used to express the sphere where all living organisms inhabit today, viz., the planet or nature. ‘Ecophilia’ can thus be understood as the love of nature where all living and non-living beings are developed in accord, interdependently and organically.

Biophilia as the Basis of Ecophilia

This section aims to explore the meaning of E. O. Wilson’s conception of biophilia which can be understood as the ground of ecophilia.

As a biologist who spent years in nature study, E. O. Wilson in his 1984 publication *Biophilia* attempted to manifest the harmonious relationship between human and nature. He defined biophilia as ‘the innate tendency to focus on life and lifelike processes’ (1984, p. i). By the term ‘innate’ tendency, biophilia is meant to be part of human nature and co-evolves through generations. The process of the co-evolution is called by Wilson (1993, p. 32) as ‘biocultural evolution’—‘during which culture was elaborated under the influence of hereditary learning propensities while the genes prescribing the propensities were spread by natural selection in a cultural context’. Wilson’s interpretation of biophilia includes the human tendency of affiliation with nature as well as the notion that human beings share the genetic basis with other natural beings. Human cultures develop with biological evolution although human history is minute in comparison with the natural history on this planet. Thus nature and culture cannot be clearly separated as two distinct entities. In many cultures a lot of symbols of nature can be found; from nature human cultures are generated, adapted and developed (Wilson, 1984).

Wilson (1984, 1993) does not deny that nature is both attractive and aversive to human beings. For example, the aversion to serpents seems to be common to all humans across cultures. Even chimpanzees raised in the laboratory appear apprehensive in the presence of snakes, although they have not had any similar previous experience. As Wilson (1984, p. 86) states,

Around the world serpents and snakelike creatures are the dominant elements of dreams in which animals of any kind appear. Inspiring fear and veneration, they are recruited as the animate symbols of power and sex, totems, protagonists of myths, and gods.

This natural tendency, according to Wilson, may be interpreted as a deeper affiliation with life based on self-protection and self-interest. Throughout the human history there are records of sickness and death caused by poisonous snakes. And yet in Madagascar where no large or poisonous snakes exist, the indigenous primate lemurs show no fear or resembling responses to snakes. The aversion and attraction of nature are developed in living beings biologically as well as culturally. They are responses developed with evolution of organism. In this sense, biophilia does not only include preference but also awe and reverence for nature.

Moreover, there is a tendency of partiality for diversity in biophilia because biodiversity helps to preserve and maintain life. As Wilson (1984, p. 118) states, ‘We should pay more attention to the quality of our dependence on other organisms. The brain is prone to weave the mind from the evidences of life, not merely the minimal contact required to exist, but a luxuriance and excess spilling into virtually everything we do’. This shows the significance of conservation of diversity of life. According to Kellert (1993, p. 21), five points are worth notice with respect to the notion of biophilia:

1. The human inclination to affiliate with life and lifelike process is inherent, i.e., biologically based.
2. The human inherent affiliation with life is part of human evolutionary heritage.
3. This human inclination is associated with human competitive advantage and genetic fitness.
4. Biophilia is likely to increase the possibility for achieving individual meaning and personal fulfilment, viz. self-interest.

5. The self-interested basis of biophilia is appropriate for developing a human ethics of care and conservation of nature, especially the diversity of life.

According to Wilson (1993) and Kellert (1993), biophilia is a human inherent inclination to have affiliation with life and lifelike process, which is biologically evolutionary and self-interested. During the process of evolution, the tendency of affiliation with life is translated into care for and conservation of life as well as awe and veneration of life. Life includes all forms of life. Among these life forms, some that directly benefit human thriving and flourishing are of the utmost caring and conservative responses; some that cause harm such as sickness and death are treated with veneration and fear. Either care or awe, or both, can be grounded to develop a conservation ethics of nature, aiming to sustain biodiversity. The more life forms vary the more probability of human survival increases.

The most harmful part of ongoing environmental despoliation is the loss of biodiversity. The reason is that the variety of organisms, from alleles (differing gene forms) to species, once lost, cannot be regained. If diversity is sustained in wild ecosystems, the biosphere can be recovered and used by future generations to any degree desired and with benefits literally beyond measure. To the extent it is diminished, humanity will be poorer for all generations to come. (Wilson, 1993, p. 35)

The diversity of life can be cherished based on its utilitarian value since there is vast material wealth in nature, e.g., the resources of food, energy and so on. More importantly, its aesthetic and spiritual potential should be valued as well. There has been voluminous literature depicting the satisfaction, inspiration and sense of beauty and reverence experienced in nature through history, across cultures. Kellert (1993) identifies nine dimensions of biophilia tendency—the utilitarian, naturalistic, ecologicistic-scientific, aesthetic, symbolic, humanistic, moralistic, dominionistic and negativistic. Kellert's typology of biophilia values, in my view, has gone beyond the scope of original definition of biophilia as 'life and lifelike processes'. As Kellert (1993, p. 51) states, 'the symbolic experience of nature reflects the human use of nature as a means of facilitating communication and thought'. Nature is used as a symbol or means of communication and language. The understanding and usage of the concept of nature as a means of communication or symbol implies that life and lifelike processes are insufficient to convey the meaning and connotation of nature because the non-living entities are involved. Here we may find that the term 'ecophilia' can serve well to express Kellert's typology of biophilia tendency. Whether the term biophilia or ecophilia is adopted, what cannot be denied is that Kellert's typology reveals the significance of nature in human life: enriching our lives, nature—physical or symbolic—is an important source of meaning in human experience. Based on the conception of biophilia (or ecophilia), the ethics of conservation is justified. As Kellert (1993, p. 60) says:

The conservation of nature is rationalised, from this perspective, not just in terms of its material and commodity benefits but, far more significantly, for the increased likelihood of fulfilling a variety of emotional, cognitive, and spiritual needs in the human animal. ... Nature's diversity and healthy functioning are worthy of maintenance because they represent the best chance for people to experience a satisfying and meaningful existence.

Ecophilia can be pedagogically worthwhile because it benefits the meaningfulness of human life. Therefore, ecophilia deserves to be an aim of education.

Teaching Children about Ecophilia through Nature

The above discussion reveals the pedagogical potential implied in the idea of ecophilia. This section aims to discuss how to put the education for ecophilia into practice. In order to educate for ecophilia, children should be recognised as playing a vital role in the process. David Hutchison (1998) points out that children, especially during their middle childhood, construct their functional cosmology of the universe—a working theory of the world, which marks the child's 'entry onto a new relationship with the world – a relationship built on a

reciprocity between the child and the world of nature and the physical and the cultural worlds that surrounds her' (1998, pp. 83-84). People's relationship with and actions towards nature have been built since they were very young, either in the positive or negative way. For Hutchison (1998), the best interpretation of development of children's spirit and mindset is the holistic and progressive perspective. The Romantic educational theorists Jean-Jacques Rousseau, Johann Heinrich Pestalozzi and Friedrich Froebel all highly value the influence of childhood upon the later development of personality and worldview of adults. They greatly emphasise the importance of nature in education. Many contemporary evidences of empirical studies also support this view.

For example, many studies on significant life experience (SLE) show that individuals' experiences of nature in childhood have significantly positive influence on their adolescent environmental awareness and action (Bögeholz, 2006; Chawla, 1998; 1999; Tanner, 1980). Thus the human tendency of affiliation with nature should be encouraged and raised in childhood even though it is natural. In contrast, there are empirical evidences supporting the view in the negative way (Flynn, 1999; Merz-Perz, Heide & Silverman, 2001; Piper, 2003; Tallichet & Hensley, 2004). Using a sample of 261 inmates survey in prison, Tallichet and Hensley's (2004) study shows a possible link between recurrent acts of childhood and adolescent animal cruelty and subsequent violent crime. Merz-Perz, Heide and Silverman's (2001) study also reveals that there is a statistically significant relationship between childhood cruelty to animals and later violence against other people. In Kellert's (1993, p. 61) words: 'significant abusers of nature, particularly those who inflict in childhood willful harm on animals, are far more likely in adulthood to reveal repeated patterns of violence and aggressive behaviour towards other people'. The above discussion reveals that the experience of nature in childhood is crucial in people's attitudes and actions towards nature in their adulthood.

According to Hung (2010), there are three pedagogical relations between humankind and nature: learning about nature, learning in nature and, learning from nature. Firstly, nature is the subject matter of learning. This may be the most familiar role that nature plays in the current education. The study of nature forms natural sciences including biology, earth science and physical science. Yet nature in these fields is conventionally taken as a neutral object or a collection of neutral natural phenomena or events. The conventional way of learning about nature is strongly limited to printed media and cognitive ability. It is not easy to evoke emotions and feelings for nature during the process of traditional learning of natural sciences. In contrast, the second and third relations seem easier to bring forth and raise ecophilia. However, I do not mean that learning about nature must be limited and taken place in such conventional horizon. On the contrary, what I aim to stress is that the means of learning about nature should be broadened to include perceptual, sensational and imaginary means. As David Abram (1996, p. ix) states, 'The eyes, the skin, the tongue, ears, and the nostrils—all are gates where our body receives the nourishment of otherness'. In nature there are not only visible or measurable phenomena as the objects to be learned, but also the invisible landscape to be sensed, pondered upon and contemplated.

Concerning the second relationship, nature is taken as an environment for learners to be situated. In this view, nature is a place where all organisms are located and settled. Nature is the habitat for all living beings. Or, in a more specific term, nature provides different habitats for different kinds of organisms. The evolution of organisms takes place in nature in particular conditions—in particular habitats. Thus the preservation of diverse habitats helps to preserve diversity and richness of life. As Wilson (1984, p. 106) describes, 'The more habitats I have explored, the more I have felt that certain common features subliminally attract and hold my attention'. To put his words further, the more different habitats children explore, the more imaginative and creative they may become. Nature holds the potential of offering people the chances of experiencing differences and variety. The deficiency of experience of diverse nature results in two regretful losses: 'the knowledge and pleasure that can be imagined and might have been' and 'the wide array of experiences that human being should have evolved to receive' (Wilson, 1984).

Regarding the third pedagogical relation between humankind and nature, nature should be taken as a guide during the process of learning. According to Hung (2010), although nature cannot act like a human teacher;

instead, nature is a silent and wordless guide. Nature cannot ‘speak’, ‘act’ or ‘teach’ intentionally or actively; what people can learn from nature is to pay attention to the interaction between humans and nature. The virtues of modesty, attentiveness, humility and mindfulness and the ability to appreciate and respect nature are the best fruits gained from this learning process. This learning is invisible, but, sensible. As John Fire Lane Deer (cited in Abram, 1996) states,

Listen to the air. You can hear it, feel it, smell it, taste it. ... we sit together, don’t touch, but something is there’ we feel it between us, as a presence. A good way to start thinking about nature, talk about it. Rather talk to it, talk to the rivers, to the lake, to the winds as to our relatives.
(p. 225)

The lesson that nature gives may be invisible, intangible and silent but lingering and ruminating. We have to commit all our senses, thoughts, patience and mindfulness to it in order to gain this learning. As Abram (1996) describes, the learning of nature can be seen as an ‘unseen enigma’, ‘the very mystery that enables life to live’ (p. 226).

Overall, the above three pedagogical human/nature relationships can be seen as prerequisites for cultivating ecophilia in children’s mind and heart and furthermore, for cultivating what Orr (1992) terms ecological literacy. Orr (1992) claims that ecological literacy is driven by the sense of wonder and that the sense of wonder is rooted in biophilia—the affinity for the living world. Ecological literacy is driven by biophilia. As mentioned, biophilia can be seen as a part of ecophilia. Therefore, education for ecophilia involves the development of ecological literacy.

To be ecological literate is not only able to read, write, and numerate, but also able to ‘observe nature with insights, a merger of landscape and mindscape’ (Orr, 1992, p. 86). Says Orr (p. 92): ‘The ecologically literate person has the knowledge to comprehend interrelatedness, and an attitude of care or stewardship’. The ecological literacy is defined as implying the following features:

1. a broad understanding of how people and societies relate to each other and to natural systems;
2. an understanding of how they might do so ecologically;
3. an awareness of the interrelatedness of life;
4. knowledge of how the world works as a physical system. (Orr, 1992, p. 92)

Based on the above, I would like to add some more features that ecological literacy may imply:

5. the reverence for nature, e.g., for non-human beings, and for landscape;
6. giving weight to the holistic embodied approach to learning including cognitive, perceptual, and emotional components/

Overall, to cultivate ecological literacy can be understood as educating for ecophilia. Children and nature play the central roles in this education: the sense of ecophilia must be cultivated in children’s immediate and embodied experience of nature. If children could have significant experiences of learning about, learning in, learning with and from nature, nature would possibly become an inseparable part of their lives histories and education. The fostering and raising of ecophilia in children’s mind and heart can be the first step of amelioration of the endangered human/nature relationship.

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