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Outdoor experiences and sustainability

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ABSTRACT
Positive outdoor teaching and learning experiences and sound pedagogical approaches undoubtedly have contributed towards an understanding of environmental sustainability but it is not always clear how, and to what extent, education can translate into action. This article argues, with reference to social learning theory, that role modelling, mentoring and sustainable practice, by outdoor educators and using outdoor experiences, can contribute to pro-environmental action by offering an array of possibilities to engender pro-environmental behaviour. Pro-environmental behaviour is situated on the spectrum towards the realisation of a sustainable 'lifestyle', which implies a stronger and more committed intent, but might constitute too radical a shift with implied structural change. Using Cooper's theoretical framework of 'awareness, empowerment and commitment', the place of role modelling through long-term mentoring in real, lived, outdoor environments that embrace pro-environmental behaviour is illustrated but further empirical research is required to substantiate the evidence base.

KEYWORDS
Role models; mentoring; pro-environmental behaviour; sustainable lifestyles; outdoor

Introduction

The most recent report of the Intergovernmental Panel on Climate Change (2013) provides the strongest evidence yet for unsustainable human lifestyles and their effect, in the long or medium term, on future generations. Consumer lifestyles and behaviour in western capitalist societies have a direct effect on climate change (Hill, 2012; Plumwood, 2002; Shiva, 2008).

There are multiple interpretations of 'sustainability' (Lugg, 2007) and they encompass social–cultural, economic and environmental considerations that can be conceptualised as holistic, mutually interdependent and co-defining (Sterling, 2010). In its environmental usage, sustainability refers to the potential longevity of vital human ecological support systems and human communities and the various systems on which they depend, in balance with influences and impacts.

It is clear that sustainable lifestyles are not well understood. Following a survey of 8000 young adults in 20 different countries by the United Nations Environment Programme (2011), there was a call for a 'holistic, compelling and pragmatic vision of what a sustainable society consists of and how it can be translated at the local and individual level' (p. 7). Outdoor educators have positioned themselves alongside environmental sustainability (Nicol, Higgins, & Ross, 2013) and a wider diversity of issues is recognised beyond environmental sustainability broadly concerned with social justice and economic equitability (Ross, Christie, Nicol, & Higgins, 2014). However, the place of transformative processes is recognised with 'a need for some pedagogical effort to improve future welfares' (2014, p. 195) seen in a political context. For some, more sustainable economic, social and political processes might be aspirational, necessarily longer term and harder to envisage than a more pragmatic articulation of that transformed society through pedagogic illustration (e.g., Cook & Cutting, 2014).

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Much writing suggests that positive outdoor teaching and learning approaches are important conduits towards understanding of sustainability (Higgins, 1996; Higgins & Kirk, 2006; Irwin, 2008) and that ecologically literate teachers are important interpreters of such concepts (Christie, 2012). Hill (2012) sees three facets of a sustainability-focused pedagogy: philosophy, values and understandings; infrastructure, resource use and programming; and strategies for teaching and learning. However, there are contested debates on the efficacy of education for action and changing behaviours (in the widest sense of the term) in individuals and for groups, and thus other concepts and approaches are worth exploring.

Yerkes and Haras (1997) suggest that the link between outdoor education and the development of positive environmental attitudes is weak. However, their review of research drawn from other fields indicates that programmes for environmental action including involvement in outdoor experiences, development of autonomous student behaviour, role modelling and mentoring might be important elements in creating positive behaviours for environmental sustainability.

This notion is explored further here and it is suggested that the effective role modelling of sustainable behaviours, or mentoring to embed practice by outdoor educators or through outdoor experiences, may be key to improving understanding and examining philosophies (Boyes, 2012):

> Research suggests that … observing how others behave and modelling our behaviour on what we see around us provides more effective and promising avenues for changing behaviours than information and awareness campaigns. (Jackson, 2005, p. XI)

It is acknowledged that not all role modelling is good: there are both positive and negative role models in all situations; and even if there is a good role model, modelling may not necessarily be effective as an educational process (Sanderse, 2013). Thus the position of a 'mentor' as a more facilitative individual in a relationship of mutual trust is also explored with its potential for fostering environmental sustainability. This article examines the definitions of role models and mentors, placing the former within social learning theory, and reflects on different personae who might hold these roles and their potential effectiveness for influencing individuals. The article utilises research evidence to examine the motivations and barriers to pro-environmental behaviour for individuals and groups, and explores the role of outdoor educators and outdoor experiences in facilitating such action.

Role modelling

In this context, a role model is seen as someone who is 'perceived as … worthy of imitation' (Yancey, 1998, p. 254) and 'an individual who inspires individuals or groups of people through personal contact and relationship' (Ingall, 1997, p. 3). Sadler (2015) sees his role model in experiential education as a 'paragon', 'an embodiment of an idea' and a symbolisation of principles (p. 5).

According to social learning theory (Bandura, 1977, 1986) human behaviour is transmitted largely through exposure to role models. Bandura advocated that people learn behaviours through observing others, their attitudes and behavioural outcomes and that this cognition serves to inform subsequent actions. The importance of continuous reciprocal interaction in terms of the juxtaposition of cognitive, behavioural and environmental influences will support this process. Bandura (1977) suggests that such role modelling is coded by an individual and that this will guide action at a later date.

Role models generally reflect an age demographic; that is, the role model is older (although not always by many years) than the individual who may emulate him or her. Children are surrounded by influential models such as parents, teachers, peers, media personalities and so forth, all of whom might provide behaviours to observe and imitate. If role models are to have impact and effect change in an individual, it is important to understand what effect their modelling could and should bring about in others.

In the contexts of education and schools, there have been many commentaries on how teachers can influence student learning and maximise impact. Some research shows that when students identified teachers as role models, this played a particularly important role in the students' learning process (Lashley & Barron, 2006; Shein & Chiou, 2011) It is what teachers do and how they do it that will make a significant contribution (Hattie, 2012).

Not all research supports this assumption and questions whether much role modelling by teachers is schools is implicit. Bricheno and Thornton (2007) found that only 1.9% of secondary school students ($n = 379$) mentioned teachers as role models, with a third of students seeing one or both parents as role models. This reflects other empirical studies in which teachers were either not mentioned as role models (Bucher, 1998) or only mentioned by a minority; for example, 3% of respondents within a sample of 4759 adolescents (Yancey, Grant, Kurosky, Kravitz-Wirtz, & Mistry, 2011; Yancey, Siegel, & McDaniel, 2002). Again, parents and other relatives were chosen most often, although when asked about former role models the percentage of those mentioning teachers rose to 10%.

There are many examples of individuals being role models for others in overcoming adversity or disability, through achievement, personality or profession, but generally they have inspired others to act, sometimes in unexpected ways (Vranic, 2011). More empirical research is available on the influence of role models in promoting physical activity (Granich, Rosenberg, Knuiman, & Timperio, 2010; Payne, Reynolds, Brown, & Fleming, 2003; Smuka, 2012). Veitch, Hume, Salmon, Crawford, and Ball (2013) found that parental encouragement, support and modelling were the most commonly discussed factors that mothers believed influenced their children's involvement in physical activity.

A role model might be someone to 'admire', 'identify with', 'look up to' or 'want to be like' (Bucher, 1998) but it is also seen as a kind of Aristotelian habituation (Steutel & Spiecker, 2004) for emulation. In an educational context, teachers should not be the measure but should embody qualities that a student judges to be worth following (Krisjánsson, 2006); that is, 'becoming what the teacher exemplifies' rather than 'becoming like the teacher'.

The research indicates that the most successful outcomes have been achieved in situations where a role model takes on a support and mentoring role for longer term and sustained influence.

Mentoring

> A mentor is a more experienced individual willing to share their knowledge with someone less experienced in a relationship of mutual trust. A mixture of parent and peer, the mentor's primary function is to be a transitional figure in an individual's development. (Clutterbuck, 2001, p. 2)

A mentor may thus, but not necessarily, transcend demographics and can be a peer or coach, or both. Mentoring implies an extended, long-lasting and shared relationship with support, and qualities such as empathy, confidence, patience and tolerance (Reid & Jones, 1997) are characteristics of effective mentorship.

Most of the empirical evidence on the outcomes of coaching, mentoring and peer-networking has been in the area of teacher professional development where mentoring has been used to embed changed practices, develop learning communities and influence organisational transformation (Beatty, 2000; Rhodes & Beneicke, 2002). These outcomes are also desirable in fostering environmental sustainability, not only in a pedagogical or educational context through Education for Sustainable Development (Kadji-Beltran, Zachariou, Liarakou, & Flogaitis, 2014; McNaughton, 2012) but in encouraging pro-environmental behaviour[1] in the wider population through empowering participants to reflect on their values and action orientation.

The role of a mentee is similar to that of an apprentice with scaffolded support from the mentor. He or she as an emergent practitioner or learner will be influenced by the mentor's behaviour including values, ethics and standards. In fieldwork, there are examples of successful peer-to-peer mentoring (Rebar, 2012; Simm & Schaaf, 2011) instilling confidence and skills in the less experienced mentee and '… mentoring is beneficial because it is example-setting, it is relevant,

immediate, influential and personal' (2011, p. 32). In outdoor skill acquisition or development, mentoring is less developed or reported (Hodgson & Sharp, 2000) and although there is some evidence for its success in Sustainability Education (Bowser, Gretzel, Davis, & Brown, 2014), it should have potential for wider implementation in this context.

Action for environmental sustainability

The translation of process to action is important but complex. There is considerable academic interest in the reasons why people act environmentally and in the barriers to pro-environmental behaviour. Sustainability might be more realistically achieved through small-scale changes in environmental behaviour at the individual level or in small groups and subtle encouragement by role modelling or mentoring, than by any large-scale changes in lifestyle.

Role modelling or mentoring of pro-environmental behaviour to effect sustainable practice is one approach to environmental sustainability. Sustainable lifestyles imply a stronger and more committed intent. Lifestyles can be understood as an assemblage of social practices that represent a particular way of life (Jackson, 2005). They give substance to an individual's ongoing narrative about identity and self-actualisation (Giddens, 1991). However, 'sustainable' lifestyles are more complex and linked to wider social and cultural processes because structural changes may be needed to enable lifestyle choices conducive to sustainability. Pro-environmental behaviour is a motivation appealing to other agendas and identities (e.g. frugality, ethics, health and well-being).

Evans and Abrahamse (2009) describe a range of social practices comprising actions around transportation, food, energy consumption, waste/recycling and recreational activities. Respondents in this research appreciated that the most important factor was to undertake change in their practices across a range of domains and saw the notion of achieving a sustainable lifestyle as a process and one which takes place incrementally. The notion of incremental or gradual change has affinity with a 'Net Positive' theoretical framework (Birkeland, 2003; Romm, 1999). However, there are multiple entry points through which to mobilise uptake given that there is a range of agendas, although sustainability is seen as something of 'a fragile and ephemeral concept' (Evans & Abrahamse, 2009, p. 496) and individual action alone is not enough to influence large-scale change (Nicol, 2013).

It is difficult to ascertain the relative strength of factors in influencing the adoption of behaviour, attitudes and practice, given that in the population as a whole the antecedent experiences, attitudes and motivations are variable (Hwang, Kim, & Jeng, 2000). It is clear that solely increasing knowledge, however, does not lead to behavioural change (Kollmuss & Agyeman, 2002: Schultz, 2002; Steg & Vlek, 2009). Factors most consistently identified in adult populations which result in change are those that arouse learners' emotions, enhance their environmental conceptions and challenge learners' beliefs about their own ability (or inability) to make an impact on environmental problems, so-called 'eco-phobia', pessimism or 'action paralysis'. There is sometimes resistance to change particularly if individual mindsets or habits are at risk or threatened (Kegan & Lahey, 2009; O'Brien et al., 2013) until the inefficacy of existing practice is proven beyond doubt or there is a threshold event which is catastrophic and forces a reappraisal (Gibson, Head, & Carr, 2015; Krasny, Lundholm, & Plummer, 2010).

It is important for participants to feel that their actions can bring about an outcome and that they have a 'locus of control' in being agents in influencing their own or their community's future (Hines, Hungerford, & Tomera, 1986/1987). The young people in the developed world questioned in the United Nations Environment Programme (2011) survey equated a move to a more sustainable society with a better quality of life at an individual level. Research amongst young Australians suggested that those with a higher environmental concern and knowledge and a more internalised locus of control in relation to the environment had a greater degree of pro-environmental intentions and actions than those without (Fielding & Head, 2012).

For most individuals, behavioural commitment is a question of factors such as cost, convenience and effort (Barr, Shaw, & Gilg, 2011) There is a wide literature emanating from transport geographers about the dichotomy between choices made in the home which reflect environmentally

friendly behaviour and the rare translation of this to tourism practices. Consumptive and habitual activities in the home such as eating locally grown produce or recycling might contribute to attempts to live sustainably, or an understanding of such by individuals in a population, but the attraction, and take up, of (cheap and easy) air travel for many people, which can account for a large element of personal carbon emissions (Chapman, 2007), often mitigates against a life lived totally sustainably and gives further support to encouraging pro-environmental behaviour as a subset of sustainable lifestyles.

Whatever the extent of pro-environmental behaviour, however, be it small-scale action in the home or school, or a more radical shift in practice towards a lifestyle change, both could be illustrative of the 'values–action' practice (Blake, 1999). Sometimes, there are barriers to participation in environmentally friendly practices which need to be removed before values can be translated into action (Barr, 2008; Collins, 2004).

It is evident from the research on significant life experiences that direct experience is influential on engendering pro-environmental behaviour (Chawla, 1999). The externality provided by role modelling and mentoring should provide positive feedback about behaviour indirectly or directly and should create external possibilities and incentives by widening the scope of understanding and vision. However, successful outcomes are premised on finding a suitable role model or mentor and this can be difficult with emerging or innovative practices (see, e.g., Kadji-Beltran et al., 2014, on embedding Education for Sustainable Development in schools).

Social theory and previous research indicates that when there are increased interactions between a learner or participant and the mentor or role model, and where this is long term and occurs within a real lived environment which embraces that behaviour, there is a higher probability that the behaviour will be adopted (Bandura, 1977, 1986; Higgs & McMillan, 2006; Hill, 2012; Payne et al., 2003; Smuka, 2012). Outdoor experiences are proposed as optimal platforms for providing opportunities to fulfil these interactions.

The role of outdoor educators and outdoor experiences in fostering environmental sustainability

It is evident that to enhance sustainability, education and learning must play a key role in changing attitudes and behaviour (Cooper, 1998) but there needs to be more of an action focus. Cooper's framework based on three simple considerations—awareness, empowerment and commitment—is used as a model to consider the role of outdoor educators and outdoor experiences, and their potential contribution through modelling and mentoring to foster environmental sustainability.

Awareness

Outdoor experiences that involve understanding and experiencing nature can change behaviour and attitudes, and are key attributes of sustainability (Barnes & Sharp, 2004). Bögeholz (2006), examining nature experience and its importance empirically, accepts that nature experiences are indispensable foundations for the individual development of attitudes and values towards the environment. She notes the contribution of experiences to Education for Sustainable Development, not only in content but in the development of values and attitudes and as motivational factors for learning. Outdoor educators not only need to live their lives in a sustainable way so that young people might experience good practice (Higgs & McMillan, 2006), they need to encourage outdoor experiences through which young people can learn experientially. These do not need to be adrenaline-filled activities with expensive equipment and particular locations but those where participants are living and being in the outdoors and have the freedom to explore, such as in communities with a sustainable living ethic (e.g. Centre for Alternative Technology in Wales[2]) where visitors can engage in a range of sustainable solutions.

A number of residential outdoor centres raise awareness of environmental sustainability through their practices, such as reductions in vehicle use, micro-generation of electricity through hydro-schemes, solar panels and wood chip/log boilers. Critics might suggest that these developments are premised on economic rather than environmental values with government renewable heat incentives or the fact that in remote locations there are few easy and economically advantageous options. Whilst building efficacies may not overtly raise awareness, other domains of environmental practice such as pedagogical approaches, waste management, quality of food and the local environment might be more influential to visitors (example 1).

> Example 1. A residential outdoor centre is situated in a remote valley off-grid and is popular with primary and secondary schools. Eggs can be purchased at the centre where hens roam freely; composting and sorting burnable rubbish is part of everyday practice. Pupils can walk or run to the outdoor activity sites, or bring or hire bicycles. Learning about carbon footprints, alternative technologies and living in such an environment contributes to understanding sustainability and fostering pro-environmental behaviour, supported by the wardens who live next door. The call of a curlew, hoot of an owl, dark sky gazing and glimpses of deer, all provide spontaneous outdoor experiences.

Living and being in the outdoors is important in raising awareness of environmental sustainability. Activities in the locality of an outdoor centre, explorations to parks or other local environments or gardening (example 2) in respect of a household promote energy reduction, a healthy lifestyle and time in nature. Netuveli (2016) demonstrated that 'green' households reported greater, statistically significant life satisfaction and self-rated positive health. Mentoring can be through clubs, societies and other organisations or co-allotment owners in addition to parents, teachers and leaders.

> Example 2. A wildlife gardening project works with local communities, businesses and schools to create and enhance gardens that are attractive to wildlife and people by enhancing the biodiversity value of gardens and public spaces. These are also used for learning about the local outdoor environment. Mentors work with local people and schools over a period of time to encourage a healthy lifestyle through gardening, involving them in sustainable practices, recycling, composting and caring for the environment that they have helped to design and create.

It is harder in a school environment to provide a 'lived' experience. Understanding sustainability is intrinsic to programmes involving outdoor learning (Christie, 2012; Scottish Government, 2012) through the understanding of concepts and the acquisition of knowledge. The curriculum is both enhancing in this respect but also constraining in the spaces and places through which the school can provide outdoor experiences for their pupils. By formalising the classroom of nature in schools as '… living, learning places where pupils see what a sustainable lifestyle means …' (Department for Education and Skills, 2006, p. 28) young people are impelled into learning about issues connected to sustainability. A teacher here may support and encourage learning by role modelling (Hill, 2012).

Empowerment

Outdoor educators have demonstrated the effectiveness of role modelling, mentoring or coaching in terms of mutual participation in outdoor adventurous activities to address the needs and interests of young people, which can translate into increased motivation and changed behaviour in a classroom environment (Kendall & Rodger, 2015) or employment situation. However, the role of teachers and educators in modelling sustainable practices is not so well recorded:

> Teachers … found it difficult to teach for or about sustainability perspectives if they were not somehow personally invested in the broader sustainability project … teachers who seek to educate for a sustainable future need to walk the talk. (Hill, 2012, p. 23)

Higgs and McMillan (2006) suggest from their research in secondary schools that if students are immersed in direct and continuous observation of best practice of the people they respect engaging in sustainable practices rather than being told of their value, they are more likely to adopt such behaviours. Pupils need tangible and personal applications of sustainable practices although school

and community characteristics may influence them. Small groups, residential visits and a degree of separation from mainstream culture were seen to be positively influential and these have parallels in most outdoor learning contexts. But manifestations of socio-economic class through costly items or perceived luxuries can mitigate against good practice (e.g. serving organic foods, supporting field visits, etc.). However, if sustainable practice pervades the culture of the school (Eames, Barker, Wilson-Hill, & Law, 2010) or organisation, is long term and is seen as normative, then these factors are less predominant. Jensen and Schnack (1997) suggest an action competence approach to environmental education whereby students will have 'the capacity to be able to act now and in the future and to be responsible for (their) actions' (p. 175). Defined targets will support participants in acting positively and for catalysing commitment where change is incremental (example 3).

Example 3. Monthly targets of number of kilometres walked or cycled to and from school were set for each 'house' in a secondary school. Staff, too, participated in the challenge, which was supported by bike racks and changing facilities with lockers for school uniform. Physical education lessons involved pupils working with the physical activity monitoring data generated and environmental impact was calculated in science and geography lessons with the methods being applied to Duke of Edinburgh expeditions. The school also took part in the 'Eco-schools' *Empty Classroom Day*.

There are ongoing challenges to the actions of some outdoor educators in so far as they might undertake environmentally friendly practices in the home, school, outdoor or environmental centre yet be attracted to explore new places and new cultures and to have adventures in distant places or even on reliable snow, for which air travel is seen as a constituent part (Chapman, 2007).

Commitment

Research has shown that participants need to feel that their actions can bring about a positive outcome (Fielding & Head, 2012; Hines et al., 1986/1987) and thus it is important for them to see some change or feel that they are working towards an empirical target:

> Direct contact with and travel through the environment can not only lead to the acquisition of knowledge about the land and its use and history, but also facilitates the development of values such as sustainability, aesthetic appreciation and respect for the outdoors. (Barnes & Sharp, 2004, p. 1)

Journeying is a key part of outdoor education and reducing a carbon footprint is easily achieved by canoe, kayak or on foot. The benefits of 'slow' travel are well documented (Varley & Taylor, 2014), allowing time to connect with an environment, and an outdoor educator can be in the position of leader or mentor, sharing his or her knowledge. Nicol (2013) asks whether experiences in the outdoors '… can provide moral impulses that stimulate pro-environmental behaviour' (p. 9). In this context, the 'self' of his autoethnographic approach would be transferable to shared experiences with peers, adult to child or other mentorships (example 4).

Example 4. The Headteacher of a primary school believes that the main emphasis of the annual residential outdoor experience should be in transport and living, as models of sustainable practice that the children could access for themselves in later life. Travel is by public transport and walking, and the residential is self-catered with benevolent parents and volunteers cooking locally sourced food researched by the children. The outdoor 'centre' is remote and powered by a wood boiler and small hydro scheme and learning about these sustainable technologies is part of the real 'lived' experience.

In a household context, a parent or carer can be a role model or mentor in 'attempting to live sustainably' (Blake, 1999; Evans & Abrahamse, 2009) (example 5). There has recently been an increasing interest in the United Kingdom in gardening and uptake in the use of allotments.

Example 5. A father and his two children have been cultivating an allotment. The children are involved in planting, tending and harvesting vegetables and fruit for the kitchen and they are encouraged to calculate how many 'food miles' and money they save. Surplus produce is exchanged or sold for pocket money. Their house is run on wood sourced partly from a co-operative and the family is involved in processing and collecting fuel in the woodland, as well as building treehouses and models with the offcuts and surplus.

Not only do these and other initiatives provide time outdoors, physical activity and health benefits, they often result in shared endeavour and increasing social capital. It has also been shown that when people are able to embrace behaviours regarded as norms within a group in relation to environmental beliefs and attitudes, this is influential in the uptake of pro-environmental practices (Gadenne, Sharma, Kerr, & Smith, 2011).

Conclusion

Positive role models and mentors have a place in encouraging pro-environmental behaviour, be it in a school or educational environment, a group situation or in the home. Drawing from trans-disciplinary research and social learning theory applied to outdoor and environmental contexts, these roles in engendering significant shifts in behaviour and positive change for action are shown to be successful.

Teaching and learning plays an important part in raising awareness and understanding about environmental sustainability. In tandem with role models and/or mentors, a change in underlying philosophy and values through outdoor experiences can result in action and significant changes towards sustainable practice. Successful mentoring reports on outcomes not only for the mentee, such as increasing confidence and skills, but also for the mentor in refreshing and awakening enthusiasm (Kadji-Beltran et al., 2014). In environmental sustainability terms this gives a renewed belief in the efficacy of practice and values.

Outdoor experiences can provide an opportunity to value our relationship with, and empathy towards, the environment as illustrated through Cooper's (1998) framework of awareness, empowerment and commitment. Outdoor educators are in key positions to be role models and mentors for others and can frame positive behavioural change in the people they work with. Outdoor experiences can be inspirational for learning and as lived and shared experiences they precipitate the adoption of sustainable practice and pro-environmental behaviour. It is now necessary to seek further empirical evidence to assess the place of role models and mentors in this process.

Notes

1. Pro-environmental behaviour is defined, as in Kollmuss and Agyeman (2002, p. 240), as '… behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world (e.g. minimize resource and energy consumption, use of non-toxic substances, reduce waste production)'.
2. See www.cat.org.uk

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Notes on contributor

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