

Into the Big Wide World: Sustainable Experiential Education for the 21st Century

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This paper considers the complexity of learning and decision-making in modern society and argues that experiential education should embrace this complexity. It argues that experiential programmes should provide independent learning experiences that address the capacities of learners, the value contexts in which they learn, and that taking responsibility for actions should be an important programme focus. Furthermore, realising the limitations to learning through direct experience recognises the role of critical reflection on knowledge, understanding, and personal decision-making.

To make experiential education relevant to the needs of modern society, a focus on education about and action on the big issues of the day (e.g., global climate change) is an imperative that outdoor educators are well equipped to address. However, action requires knowledge, and therefore programmes require content. Such an approach may prove attractive to educational policy makers and represents an opportunity for experiential education to contribute meaningfully to mainstream education.

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Definitional Issues and Historical Antecedents

The nature of experiential education requires that I take personal responsibility for the terms I use and that I communicate my concept of experiential learning. For example, I am guided by the principle that the teacher and learner are essentially engaged in the same process, and the notion of *dysgu*¹ acts as an illumination and a reminder. In the UK and Europe (my home and workplace), the terms *experiential education* and *experiential learning*² are generally used interchangeably. The term experiential is in widespread use in education in general and is seen as an approach to education that implicitly trusts the learner's ability to learn through experience, rather than a *movement for change*, which seeks to challenge mainstream education. More broadly, experiential education may engage the teacher and learner in the same (learn/teach) process but in different roles, with learning taking place in intellectual, physical, emotional, aesthetic, and spiritual ways. This view of experiential education/learning sets a context for this article, the main theme of which was presented in the 2006 Kurt Hahn Address, presented at the 34th Annual International Association for Experiential Education Conference in St. Paul, Minnesota.

In the UK and in other parts of Europe, experiential education is closely associated with outdoor education. Consequently, many outdoor educators work experientially, and many experiential educators naturally use the outdoors. In broad terms, outdoor education might be considered as education *in* (outdoor activities), *through* (personal and social education, therapy, rehabilitation, management development), *about* (environmental education), and *for* (sustainability) the natural heritage.

The intention of this article is to encourage experiential educators to reflect on practice in the field in light of pressing issues such as environmental sustainability, social responsibility, and global climate change. In essence, it asks readers to consider what educational contribution they can make to solving these issues. In doing so, the article briefly considers the contribution of several influential philosophers to the development of experiential education and the difficulty of taking an experiential approach in the context of our complex modern world. If experiential education provides a significant means of addressing complexity and environmental sustainability, it is important that the approach become more widespread and integrated with mainstream education. Therefore, issues of curricula and educational policy also constitute a theme of this article. Furthermore, practical ways of addressing the complexity of

environmental sustainability are required, and so the issues of carbon dioxide (CO₂) emissions and carbon cycling are offered as examples.

Hahn in Context

It is widely accepted that Kurt Hahn was influential in the development of outdoor education, which became formalised in the UK (partly through Education Acts) as an experimental educational endeavour starting in the 1940s and to the 1960s (see Higgins, 2002). Kurt Hahn (1886–1974) was a product of his times and, just as the experiential education movement was influenced by Hahn (and Dewey, 1859–1952), he too was influenced by other educational philosophers. The formative influence of a holiday in the Dolomite Mountains in 1902, when Hahn was 16 years of age, is widely reported in the literature. Here Hahn met boys from Abbotsholme School, a small fee-paying school in England³, through which he learnt of and later read the educational philosophy of the inspirational and radical Scottish headmaster, Dr. Cecil Reddie (1858–1932). This led Hahn to a fascination with Reddie's educational philosophy and, it can be argued, a train of events that led to the founding of Gordonstoun School, the Round-Square Schools Association, Outward Bound, and the Association for Experiential Education.

Reddie was himself influenced by others, notably Sir Patrick Geddes (1854–1932), a Scottish polymath (biologist, sociologist, town planner, educational philosopher, diplomat, and place campaigner⁴). Geddes was a man of prodigious talents, but perhaps his greatest contributions relate to people living and working in harmony with their communities and to the role of education in holistic development (see Higgins & Nicol, 2009). His philosophical arguments also led to the development of the concept of *environmental sustainability*.⁵ While Geddes did not use that term and notably the environmental sentiment “think global, act local,” both pervade his arguments in his major work, *Cities in Evolution* (1915). In common with other educational philosophers like Comenius (1592–1670) and Pestalozzi (1746–1827), Geddes' holistic approach to education was based on learning via the “three Hs—Heart, Hand and Head” (Boardman, 1978, p. 224) rather than the “three Rs” (Reading, wRiting and aRithmetic). Geddes' “three Hs” referred to affective, physical, and intellectual development (in order of priority).

The spheres of influence of these individuals is also evident in that Geddes also knew Dewey (and it seems likely that they each had an impact on the other's thinking); and there was also extensive correspondence between Geddes and Lewis Mumford (1895–1990), the well-known American cultural critic (Geddes, Mumford, & Novak, 1995).

Experiential Education: Its Potential and Limitations

“I can swim—I just don't know how yet.”

(Jamie, 9 years old, when asked if he could swim)

Our individual success in surviving the many developmental challenges of our early years by guided discovery of the world through our senses is testimony to the power of experiential learning. Young children see no subject boundaries; an event may involve a verbal, visual, auditory, or tactile encounter, or a mixture of these. There are also many aspects of schoolwork that lend themselves to experiential learning, notably art, music, and elementary science. It is important to remember, however, that such approaches also are used by teachers of other disciplines, from mathematics to history (see Wurdinger, 2005). This holistic experiential approach was Reddie's premise when he established Abbotsholme School and Hahn's when he established Salem and Gordonstoun schools.

The fact that not all schooling employs experiential approaches should stimulate us to ask if there are *limits* to what we can know experientially. Dewey clearly thought there were when in 1938 he pointed out that we cannot know the past experientially (Dewey, 1938, pp. 22–23). If we reject non-experiential forms of knowing we cannot, for example, use historical records to inform the present or future. Furthermore, our personal and professional lived experience is characterised by complex issues that make plain the limits of experiential education, such as complex scientific and technological developments or the politics of the modern world.

Factors such as the environmental and social impacts of the production of goods and services, and the invisibility of these because of our separation from a cumulative distant production and disposal process, add to the general complexity of modern life. It is impossible to know this complexity experientially, yet every day we are faced with choices in what we eat and drink. For example, what is the environmental and social impact of drinking coffee (where does it come from, how is it grown, what is the impact on the landscape and community, what is the environmental cost of transport, etc.)? Similarly, tuna caught and canned with the comforting, if meaningless slogan “dolphin-friendly” presumably reduces the accidental killing of dolphins. But what is the effect on other species? Are seabirds, notably albatrosses, killed by the switch from nets to baited long-lines? (Chapman, 2001; Friends of the Earth, 2005). More fundamentally, why is “tuna-friendly *dolphin*” not in our supermarket and how would we react if it were? As we are unlikely to understand these issues experientially, what strategies are appropriate to learn about and from them?

understand the processes and implications, we must rely more on critical examination than experiential processes. Many modern issues also are difficult to fully understand because they are obscured, hidden, or even subject to forms of misinformation. This can range from the claims of product advertisers to state secrets. In such cases we cannot always trust perceptions and it may not be possible to truly know what it is one is seeking to understand, although that should not stop us trying to do so. Attempting to understand major issues (e.g., the causes and reality of wars, claims of politicians, impact of religious fundamentalisms) is, in my view, a responsibility of all citizens and educators. To do so we have to weigh the information, evidence, and the trustworthiness and authority of the sources, and that requires careful critical examination of the issues.

Whilst this form of critical engagement with issues is not a traditional focus of experiential education programmes, it may constitute one way in which experiential education is carried out, developing critical thinking skills that are valuable throughout life and applicable to complex issues. Some issues lend themselves either to an experiential approach or critical engagement, but many, if not most, will profit from a balance of the two, perhaps weighted in favour of one or the other.

Experiential educators are used to critically examining their own work through reflection/review as part of a learning cycle. However, formal research on experiential education is limited in scale. This is perhaps unsurprising considering experiential education is not part of mainstream education, and funding is scarce. If we consider learning outdoors, where much experiential education takes place, as the corollary to learning indoors, the comparison is stark in quantity and depth of research. If we take note of good research on experiential processes from whatever field the research was conducted, and collaborate with specialist researchers, the potential impact on general understanding of experiential education is considerable.

Critical reflection on the terms experiential education, outdoor education, and outdoor recreation, which are often used interchangeably in the sector, is also illuminating. Whilst experiential educational approaches can be used indoors and outdoors, the association of this approach with "outdoor recreation" can lead to the impression that personal (leisure time) recreation outdoors—rather than education—is the substantive goal. Outdoor recreation is a highly commercialised global business and it is easy for those in experiential and outdoor education to simply reflect commercial imperatives and become part of the commercialisation rather than to develop the skills in students to critique it (Higgins, 2003). Developing such skills is surely a high ideal of education as the process encourages reflection and, with a values base, taking responsibility for actions.

Taking Responsibility

Implicit in the argument above is that any mature educational process should help students learn how to make judgements about the validity of evidence and the authenticity of their own experience. In this process educators are forced to consider the relationship between experiential education, critical evaluation, and personal value systems. The development of personal values and the critical reflection on those values is a fundamental part of the process of establishing and adhering to a value system, and this is a key issue in education. Without this the intent and direction of experiential and other approaches to education is not transparent and the outcomes unpredictable.

For example, how many experiential and adventure programmes assert that they develop self-esteem in those they work with? In my experience this would certainly be a majority. But take, for example, the case of a young person stealing cars for the purpose of joy-riding. If he is good at it he will enjoy his success, his friends will recognise his skills, their respect will reinforce his feelings of success, and he will experience enhanced levels of self-esteem through this activity. What is missing from this process is a personal (and societal) value system for the learner to be able to distinguish between something educative and something mis-educative. As Dewey (1938, p. 34) argued, "The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative." It is, of course, also important to recognise that some individuals have very high self-esteem (arrogance perhaps?) and may profit from developing self-awareness. Simplistically seeking to raise self-esteem through experiential programmes may well be problematic unless the teacher/facilitator provides a structure to help participants learn from their experiences so that the values context is not left to chance, thereby encouraging individuals to take responsibility for their actions.

If "taking responsibility" is adopted as a central theme in education, it provides opportunities to apply this approach to other aspects of life. For example, raising the awareness of consequences of actions and taking responsibility for them is vitally important in both local and global citizenship (see Figure 1). Such an approach is pertinent to the big issues of the modern world, such as sustainability, citizenship, and personal health. Taking responsibility has recently become a feature of a new school curriculum in Scotland.

Following a recent national review of school education, the Scottish Parliament has, through its educational advisory agency (Learning and Teaching Scotland, n.d.), embarked on a major initiative—"Curriculum for Excellence" (CfE). Through CfE, much less emphasis will be placed on a subject-oriented curriculum in the future. Through the personal

skills and attitudes of young people are to be the central theme, encouraging young people to develop "the four capacities," so that they can become "successful learners, confident individuals, responsible citizens, and effective contributors" (Curriculum for Excellence, n.d.).

The development of the four capacities clearly will be difficult for schools to deliver and demonstrate. Perhaps as a result of the reputation of outdoor education in personal and social education, the Scottish Government has encouraged the outdoor education sector to address the development of these capacities. It has provided support in the form of an initiative called Outdoor Connections and a major research programme that we at the University of Edinburgh and others have recently completed (see Nicol, Higgins, Ross, & Mannion, 2007). As part of the work of the Outdoor Connections programme, staff at the government's education development agency, Learning and Teaching Scotland, have analysed research to identify ways in which experiential outdoor education might deliver these kinds of developmental outcomes (Outdoor Connections, n.d.). It is not clear, however, how the experiential and outdoor education community will respond. At present there is political interest, but policy makers will expect clarity about what outdoor educators would do, why they would do it, and the likely outcomes.

Developing Skills in Responsibility

How do we develop skills in taking responsibility? Rubens (1997, 1999) conducted qualitative research on links between outdoor education, adventure, and learning, and set his findings in context through a comprehensive review of the educational and psychological literature. He argued that the literature on motivation in learning contrasts narrow and broad views of adventure and suggests the value of a mastery approach. Narrow adventure experiences are short-duration activities that focus on high thrills (zipwires, ropes courses, abseils/rappels) but require little effort from students who take little responsibility for their actions. He contrasts this with broad adventure experiences, which provide the converse, requiring students to take responsibility for their actions and sustain effort (see Figure 2). Such activities are characterised by, for example, journeys (e.g., by canoe or on foot). Rubens makes a strong case that broad adventure encourages a mastery approach to education that leads to a willingness for students to take responsibility for their actions later in life. From his review, narrow adventure appears not to produce these benefits.

This is not an argument that all outdoor experiential education activities need to be based on broad adventure, but it is a challenge to narrow adventure. It also suggests that if taking responsibility for one's actions is an educational goal, then adventurous experiences that are broad in nature are more appropriate than those that are not. Until recently there

Narrow View of Adventure

- Short timescale
- High thrill challenges
- Little or no effort involved
- No responsibilities devolved to students

Broad View of Adventure

- Long timescale of experiences
- Many challenges, varied in nature
- Some or much effort involved
- Responsibilities devolved to students

Figure 2. Narrow and broad concepts of adventure (Rubens, 1999, p. 27).

appears to be no empirical research on the relative merits of narrow and broad outdoor experiential activities. However, in a recent study of early secondary students, Tay (2006) found that students on an outdoor experiential education programme reported the experience of lighting a fire and cooking food on it as being far more challenging and educationally worthwhile than what he termed adrenaline activities such as ropes courses.

There are implications for those who choose to work on these broader educational outcomes (the Five Cs of Figure 1 and taking responsibility). It requires a willingness to trust students; to depend less on simplistic models of input, process, and predictable outcome; to accept uncertainty, and to be "small people in a big educational landscape" rather than the converse. There is no role for facilitator ego in any teaching situation; the focus must be on the learner. As Freire argues, "The important thing is to educate the curiosity through which knowledge is constituted as it grows and redefines itself through the very exercise of knowing" (Freire, 1998, p. 31). Such an approach characterises education as moving from dependence toward independence.

Experiential Education: Politics and Priorities

Developing an approach to "taking responsibility" in early-years education seems a realistic ambition. However, in Scotland, starting in the early teen years, subject specialisms become a central feature of schooling and teaching approaches tend to become largely subordinate to subject content. If experiential and outdoor educational approaches are to be adopted they may, at some stages of schooling, seem a radical alternative, but at others simply complementary to mainstream education. In Scotland, political support for experiential education seems likely to be contingent on a successful collaboration with mainstream education communities.

In England, too, there has been Parliamentary interest through an enquiry into education outside the classroom (House of Commons Education and Skills Committee, 2005) and an active Real World Learning campaign. Political interest has been stimulated in part because of public

perceptions that children are increasingly separated from the natural environment, that they have little opportunity to learn to deal with risk, that they exercise less than they should, and that personal and social development would be enhanced by outdoor experiential experiences. The campaign has involved the sector working with politicians and civil servants to produce a Learning Outside the Classroom Manifesto (2006). Support for such developments requires consensus building across a range of communities of interest. In the UK this has involved those who work inside and outside the classroom, their professional organisations, politicians, policy makers, and influential charitable bodies.

There are also real benefits in collaborating for mutual skills development between schools and other experiential education providers. For example, recent research projects in Scotland (Nicol et al., 2007) found that (amongst other factors such as cost) many teachers were concerned about safety issues and lacked the confidence to take children outside the classroom, whereas they were confident in pedagogy and relevant curriculum. In contrast, specialist outdoor providers were confident in their outdoor education skills but lacked knowledge of curriculum. Clearly, building partnerships between these two groups would have mutual programme design and teaching benefits, and probably lead to a stronger political consensus.

Past Meets Present

If Geddes, Reddie, Hahn, and Dewey were alive today, what would be their priorities? In the light of the relatively narrow contemporary approach to education in most countries, their advocacy of experiential approaches to education would still be much needed. Although I am speculating, it seems likely that they still would be committed to personal and social education, particularly in relation to health and social justice, international relations, religious sectarianism, etc., and these would feature in their work. However, arguably the biggest issue of our generation, global climate change and environmental sustainability, would surely be a central focus of their work, particularly because experiential education, especially in the outdoors, provides a means of raising environmental awareness and understanding.

Although I use the term "arguably" in the previous paragraph, the evidence of likely catastrophic environmental change seems incontrovertible. The summary report of the Intergovernmental Panel on Climate Change (IPCC) (2007a), its working group reports (dealing with the science, impacts, and mitigation) (2007b), and the Stern Report (which focuses on economic impacts) (2006) make convincing and alarming reading. In essence, all the reports assert, as climate scientists have been arguing for some while, that climate change is real and human-induced,

and that the consequences of inaction to tackle it now will lead to disruption and economic collapse comparable to global war.

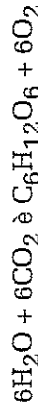
Whether Hahn, Geddes, and others would consider environmental sustainability a high priority for education, however, is not really the issue. Like all good teachers, they would be confident in the abilities of their students (today's experiential educators) to do an excellent job. We are the generation who must decide if we will address environmental sustainability in our teaching, and in my own practice I endeavour to provide relevant, stimulating, and meaningful environmental education experiences for students (e.g., Higgins, 1996b). The Scottish Government (2006) has also placed emphasis on the role of outdoor experiential education in meeting its educational targets during the UN Decade of Education for Sustainable Development (2006–2016), and this provides another opportunity to develop closer links with mainstream education.

By Leaves We Live...

In the issue of environmental sustainability, as with many aspects of civics and education, Geddes was certainly ahead of his time. Almost a century ago he observed:

... this is a green world, with animals comparatively few and small, and all dependent on the leaves. By leaves we live. Some people have strange ideas that they live by money. They think energy is generated by the circulation of coins. Whereas the world is mainly a vast leaf colony, growing on and forming a leafy soil, not a mere mineral mass: and we live not by the jingling of our coins, but by the fullness of our harvests. (Geddes, 1919)⁷

In simple terms, photosynthesis in plants absorbs much of the carbon dioxide (CO₂) we, and other animals, breathe out and that we produce through burning fossil fuels; photosynthesis also releases the oxygen we need to breathe. Consequently, the following equation represents one of the most fundamental processes sustaining life on Earth.



Without plants converting water and CO₂ into glucose (plant structure) and oxygen, we would have no air to breathe, and indeed would not have evolved. Our relationship with the atmosphere is intimate and yet the fundamental importance of photosynthesis is easily taken for granted. Ironically, for many of us identifying the oak, birch, or pine trees involved in this life-sustaining process would be far more challenging than recognising global brands such as Nike™, The North Face™ or Snoopy™.

Geddes at least was clear in identifying the educational priority that should be given to knowledge of and understanding the role of plants, and that was long before global climate change demanded urgent action. The great educational potential of dealing with such an issue experientially and interdisciplinarily in the outdoors (exploring the carbon cycle through wood-cutting and fire-making, tree-planting, prose, and poetry, etc.) is obvious. For more detail of such exercises, see Higgins (1996b). For an example of evocative prose on the subject, see the chapter entitled "Good Oak" in *A Sand County Almanac* by Aldo Leopold (1968, originally published in 1949).

Fragrant little chips of history spewed from the saw cut, and accumulated on the snow before each kneeling sawyer. We sensed that these two piles of sawdust were something more than wood; that they were the integrated transect of the century; that our saw was biting its way, stroke by stroke, decade by decade into the chronology of a lifetime, written in concentric annual rings of good oak.

(Leopold, 1968, p. 9)

As well as being an issue of moral and social significance worthy of the attention of experiential educators, the cycling of carbon and oxygen is a beautiful process that can stimulate deep critical reflection on issues as wide ranging as interspecies and intergenerational equity, global capitalism, evolution, and spirituality. Experiential educators can make significant contributions to understanding the process and our dependence on it, particularly through outdoor experiences that help students to develop a connection to place and to understand the consequences of their actions (as illustrated in Figure 1). However, there is knowledge and content too, and we must not imagine we can engender real understanding through affective knowing alone.

Concluding Comments

Although it began as a radical educational experiment, there are many facets of experiential education theory and practice that sit comfortably alongside modern progressive educational policy and offer realistic means of addressing the urgent educational, social, and environmental priorities of the day. However, to be accepted into the educational mainstream, experiential education needs to demonstrate clarity of rationale and purpose. Many exercises and activities used by experiential educators and outdoor educators (e.g., zipwires) may well be enjoyable and stimulating but lack demonstrable substance or depth, and I feel compelled to ask myself why I would use these activities rather than

focus on the big issues outlined above. A deep understanding of any issue approached experientially demands effort on behalf of the students and the teacher/facilitator, and their willingness to seek understanding rather than just experience. Practitioners and policy makers, as well as those who research in other fields (e.g., mainstream education, psychology, sociology), will only take experiential education seriously and make their own contributions to the field if we do so ourselves and are demonstrably engaging with significant issues.

To be faithful to critical reflective practice requires reviewing priorities and making choices, and to do so I have my own version of the "three Rs." My work has to be Real and relevant (to students, colleagues, society, and politicians), help develop Relationships, and demonstrate a willingness to take Responsibilities. My own priorities ensure that a central focus of these Real and relevant issues is global environmental sustainability, and my approach is to encourage students to develop Relationships with place, people, and planet, and to help them develop confidence and drive to take Responsibilities for their actions. In this way their leadership over this issue, and indeed others, may ultimately come to make a difference. In contrast, if I exclude such issues from my teaching, evidence suggests my students will assume that they are not important. They become, as Eisner (1985) suggests, part of a null (not valued) curriculum that students are just as aware of as the explicit curriculum we do teach. I cannot ask anyone to make these their own priorities, but I can suggest we consider focussing on these Rs (Real and relevant, Relationships, Responsibilities) and also in an experiential spirit to take Risks in developing our teaching to meet contemporary challenges and global imperatives.

Undoubtedly, since the development of the concept of experiential education, we have been on an educational adventure. As with all true adventures, the outcome is uncertain, but we improve our chances of significant impact if we focus on the destination (the big issues) and honestly and openly reflect on our progress so far. If our guiding philosophers were alive today, I believe they would be delighted to see a reflective, critically aware, ambitious experiential education movement determined to make a difference and to contribute to understanding and solving the major issues of the day; and environmental sustainability in general and global warming in particular are the biggest and most urgent issues our species has faced. Experiential approaches to learning are ideally suited to developing appropriate understanding, attitudes, emotions, skills, and knowledge that can make a unique contribution to dealing with these issues. I consider it a great privilege to work in a field where I can do so.

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Complexity, Connections, and Consequences

"We are told that the water levels in our reservoirs are dangerously low. I just cannot understand what all the fuss is about. Why not simply fill these reservoirs up from the mains?"

(Letter to *Bournemouth Daily Echo* newspaper, 5 April 1997)

Learning experientially also can be misleading if the information available is limited or incomplete. In such circumstances we may not know that our perceptions lack some vital piece of information, as in the case above where a person wrote to a newspaper about the local drought. Whilst the flaw in this is obvious if one has basic knowledge of the water cycle, it seems probable that the letter's author does not. Such an understanding can be gained partly by experience if, for example, one has the opportunity to visit water treatment works or has access to relevant information, but some elements require an understanding based on scientific studies (e.g., water evaporation from the oceans, prevailing winds, etc.). Hence the potential to fully understand this process experientially is limited.

I have argued elsewhere (Higgins, 1996a, 1996b) that developing a connection with place is an important aim of many educational programmes. It provides a start point for relationships (connections) with people within a community that allows further developmental outcomes, such as understanding the consequences of one's actions and an ethic of citizenship and care. These connections between these concepts are illustrated in Figure 1 and are discussed below.

Many outdoor and adventure education programmes that use adventure activities and journeys for educational purposes take place somewhere distant (often in rural areas) from where the participants live (often in urban areas). In these situations, building a lasting sense of connection in participants may be difficult to achieve as they develop relationships with a place other than their own place and perhaps with people they may never see again. Experiential educators justify such approaches as modelling reality, but authenticity may well be lost in doing so.

However, environmental and ecological processes are essentially ubiquitous and so knowledge and understanding of these is transferable. Whilst I am not arguing that it should constitute the sole aim of such programmes, developing a connection with the environment is realistic and can lead to further learning opportunities. For example, if these connections can be made and understanding of consequences of actions is developed, an ethic of citizenship, where rights and responsibilities are understood and exercised, and care, for self, others, and the environment, may result. The dominant ethic implied by this model (Figure 1) is one of taking responsibility.

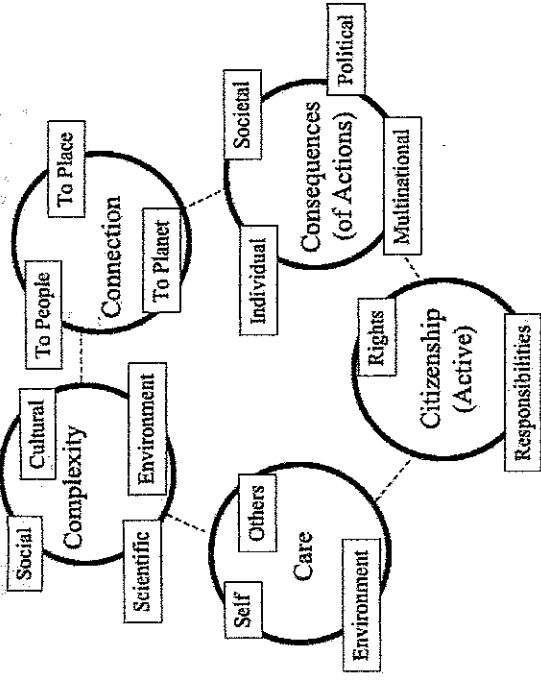


Figure 1. Taking responsibility and the 'Five Cs'.

Like other educational aspirations, developing a tendency to take responsibilities in this manner deserves considered input from skilled educators, perhaps particularly experiential educators. Whilst including these themes (taking responsibility, complexity, connection, consequences, citizenship, and care) may require careful programme design, it is perhaps no more difficult than many other aspirations educators have for their students and could be a priority in location selection and for programme organization.

Maintaining a Critical Guard⁶

Application of the "five Cs" of Figure 1 demands critical reflection (another "C"), which is generally an important facet of experiential education. A reflective element, encouraging the learner (and educator) to review the experience, is often included as part of the "Kolb Cycle" (Kolb & Fry, 1975). Although this may have philosophical inconsistencies and practical difficulties (e.g., see Webb, 2003), critical reflection is nonetheless widely used by experiential educators. In this context, reflection/review requires examining experience to aid learning. Arguably, reflection and critical review is even more relevant to issues that are difficult or impossible to know and understand experientially.

In examples cited above (e.g., coffee and tuna), as well as for global climate change, healthy eating, and other long-term developments, the consequences of actions are not immediately evident, and in order to

Footnotes

- 1 In the Welsh language, *dysgu* means both to teach and learn and must be placed in context to explain the different roles of the teacher and learner as both engage with the same (learn/teach) process but just in *different roles*. "*Rydwr yn dysgu fel athro; Rydwr yn dysgu fel myfyrwr*" translates as "I am teaching/learning like a student; I am teaching/learning like a teacher."
- 2 Single quotation marks are used in this article to indicate terms that have a contested meaning or have not yet been defined. Double quotation marks are reserved for direct quotations.
- 3 For details see Abbotsholme (n.d.)
- 4 See Boardman (1978), Meller (1990), and Stephen (2004) for biographies and critiques.
- 5 Geddes was one of several influential Scottish environmental thinkers including John Muir (pioneer of the national parks movement), Sir Frank Fraser Darling (nature conservationist and human ecologist), and Professor John Smyth (ecologist, environmental educator). See Smith and Knapp (2009) for a commentary on the contributions to experiential education of Reddie, Geddes, and others.
- 6 This is an exhortation by my colleague Dr. Barry Smith used regularly when teaching students.
- 7 From 1888 to 1919, Geddes was Professor of Botany at the University of Dundee (Scotland). He was only required to lecture during the summer term of each year and he spent the rest of the time travelling and working all over the world. This passage is from his final lecture in 1919. It was not published at the time but was subsequently in a reprint of *Cities in Evolution* in 1949 (p. 216).

Journal of Experiential Education

2009 • Volume 32 • Number 1



A Letter From the Editors.....	vi
Calendar of Events.....	viii
Call for Papers – Special Issue on Youth Development Through Outdoor and Adventure Education Programs.....	ix
Articles	
Outdoor Leadership Skills: A Program Perspective	1
<i>Wynn Shooter, Jim Sibthorp, and Karen Paisley</i>	
The Czech Way of Inclusion Through an Experiential Education Framework	14
<i>Martin Kudláček, Jason Bocarro, Ivoš Jirásek, and Radek Hanuš</i>	
The Impact of Immersion Trips on Development of Compassion Among College Students.....	28
<i>Thomas G. Plante, Katy Lackey, and Jeong Yeon Hwang</i>	
Into the Big Wide World: Sustainable Experiential Education for the 21st Century	44
<i>Peter Higgins</i>	
An Evaluation of a Service-Learning Model for Criminal Justice Undergraduate Students	61
<i>Nancy Beth Hirschinger-Blank, Lori Simons, and Alexandra Kenyon</i>	

(continued on back cover)