Edinburgh Research Explorer

Innovation and outdoor education

Link:
[Link to publication record in Edinburgh Research Explorer](#)

Document Version:
Peer reviewed version

Published In:
Journal of Outdoor and Environmental Education

Innovation and Outdoor Education

Simon Beames

Introduction

The term "innovation" is ubiquitous. Restaurants, sports teams, and city garbage collection units all innovate. They, like most goods and services providers, need to innovate or risk being devalued by society. Indeed, Australia's National Innovation and Science Agenda (Australian Government, 2017) was created to "drive smart ideas that create business growth, local jobs and global success" (para. 1).

This paper considers innovation in education — outdoor education, in particular. The primary content draws on the keynote speech that I gave at the 19th National Outdoor Education Conference at the University of the Sunshine Coast, Australia in March 2016. The bulk of the discussion will consider the degree to which innovation can be regarded as a positive or negative feature of outdoor education practice. My aim is to offer applicable guidelines that educators can use when deciding how to innovate appropriately.

Before getting into the heavy stuff, let's consider the degree to which innovation might be desirable for those educators who teach across the school curriculum using local landscapes; who lead multiday expeditions for high school students; who take children paddling, climbing, and mountain biking at residential centres; who deliver environmental education programmes of all kinds; and for those who work with at-risk youth in adventure therapy programmes. Assuming that you inhabit one of these categories from time to time, do you regard innovation as something on which you need to focus very deliberately?

When I started to think about this more deeply, I quickly realized that I couldn't answer the above question without reminding myself of the specific meanings of two key words: innovation and education. Innovation is about improving, not inventing. It concerns ideas, products, and methods (Oxford Dictionaries, n.d.) and, in popular culture, is commonly associated with technology. My view is that innovation in education should be done for one principal reason and that is to move more effectively towards our educational objectives.

This brings us to the second key word. According to one early conception, education is about learning and developing skills, knowledge, and attitudes (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). Crucially, it has ethical imperatives and involves an educator (unlike learning, more broadly) (see Roberts, 2011). It is arguable that, in the main, education focuses on developing thriving individuals (e.g., Aristotle, 2000) who can work for a better community/society (e.g., Dewey, 1916/2004) and care for the planet and its ecosystems (e.g., Carson, 1962; Orr, 2004). I just happen to believe that we can arrive at these three broad aims more directly through integrated indoor/outdoor pedagogies (see Beames, Christie, & Blackwell, 2017).

Returning to the earlier implied question of "Does outdoor education need to innovate?" there are perhaps two general perspectives. The first is "Yes, everyone's doing it." In high-income countries, young people's education and home lives are characterized by innovation. Outdoor education needs to keep up and stay with the times. The second perspective, "No," might suggest that outdoor education needs to be a form of resistance to these times, in that "We're the last bastion of authentic, real-world, direct experience that young people can access. No innovation for us, thanks!"

This debate on innovation is not, of course, taking place in a vacuum; it is situated within a wider social backdrop. "Our" outdoor education is taking place in a "risk society" (Beck, 1992), where people are obsessed with "minimizing bads," and in "liquid times" (Bauman, 2007), which are characterized by rapid changes and little in our lives being fixed. Neoliberal agendas that limit student personalization and teacher judgement in education (Ross & Gibson, 2006) have become widely accepted; forces of "McDonaldization" (Ritzer, 1993) have standardized, rationalized, and regulated outdoor education practice (Loynes, 1998); and issues of our time are verging on being too complex (Morrison, 2008) and "wicked" (Brown, Harris, & Russell Morrison, 2011) for most ordinary people to understand. Outdoor education in the 21st century is a paper in itself and has been partially addressed by Mike Brown and me in our book, *Adventurous Learning* (Beames & Brown, 2016). My point here is that our consideration of innovation in outdoor environmental education needs to remain aware of the ever-changing, globalized circumstances in which it takes place.

The double-edged sword revisited

Cuthbertson, Socha, and Potter (2004) liken technology in outdoor education to a double-edged sword, as "the technology filter which adds membranous layers to our direct encounter with the natural world has the potential to work against the actual goal of the outdoor education programme" (p. 137). Cuthbertson et al.'s paper does a particularly good job of problematizing the overly technologized relationships that humans have with the natural world. It seems to me, however, that there may be "goods" and "bads" associated with innovation and outdoor education, and I suggest that we need to get better at distinguishing between the two.

Consider, if you will, some recent outdoor education/recreation product innovations. These might include, for example, auto-belay devices at climbing walls, hand-held Global Position Systems (GPSs), and integrated stove/pot cooking systems. In what ways might these innovative products offer desirable and not so desirable features to our practice?

It is arguable that innovations can be considered positive if they can render activities safer (e.g., nylon ropes); make being outside more comfortable (e.g., Gore-Tex); increase participation for those less interested in the outdoors (e.g., GPS use in digital mapping can be a pedagogical "hook"); be less ecologically disruptive (e.g., tablets for taking photos instead of handling flora); and be less "burdensome" and more efficient (e.g., boil-in-bag meals).

On the flipside of the coin (or sword), we have the less positive aspects of innovations in outdoor education. Number one on this list is Cuthbertson et al.'s (2004) chief concern that technology places additional membranes between humans and the natural environment. Equally, however, I would include innovations that put additional barriers between humans. When taken together, these two points are key downsides to innovation: direct engagement with place and people is reduced.

There are further negatives associated with adopting innovations. For example, equipment can be less repairable in the field; technologically advanced gear usually costs more; gadgets can breed the illusion of one's control over nature and competence in outdoor living/travel — what will you do when the GPS runs out of

battery power? Technology can be tremendously environmentally unfriendly as well. Just think of the earth costs associated with the resource extraction and factory manufacturing of a smartphone or carbon-fibre mountain bike.[1]

Continuing on the downside, overly innovative products can be so clever that they constrain the degree to which participants can make choices and be creative. Many devices may only give people "one way" of using it properly; in doing so, the requirement for students to know something deeply and develop a sense of mastery may be severely curtailed. In many cases, product innovation appears to be driven by manufacturers attempting to make tasks associated with outdoor living and travel less burdensome. Keep this point in mind as we move to the next section.

Meaningful engagement

One possible key to unlocking the degree to which an innovative object or practice can be seen as "good" has to do with its ability to elicit engagement with ideas (e.g., integrity), objects (e.g., trees), and other human beings (e.g., classmates). Seen this way, innovation that increases engagement might be considered good — but only if it goes some way to serving the three principal aims of education that I highlighted earlier: education is about learning and developing skills, knowledge, and attitudes; has ethical imperatives and involves an educator; and focuses on developing thriving individuals who can work for a better community/society and care for the planet and its ecosystems.

The body of empirical research on innovation in outdoor education remains small, but studies do report increases in student engagement (Costa & Carrilho, 2016; McClain & Zimmerman, 2016; Zimmerman & Land, 2014) and involve accessing powerful educational reference material "on the spot" with tablets. In my view, what is crucial — in studies such as these, which were conducted in zoos and museums, summer camps, and science classes — is that we qualify what we mean by "student engagement." Is it predominantly "heads up," with students interacting with people and place, or are their noses buried in screens? Here we enter the rather subjective zone of who determines what is meaningful engagement and what is not. Presumably, meaningful engagement will lead directly back to our deeply considered educational aims.

The last thing I'll say on bringing screens outdoors is that most tablets come with very useful built-in apps for taking notes, photos, and videos. Many excellent resource apps exist that cover tree identification, bird calls, weather, and the night sky. Mapping with apps that offer place and journey markers can work well, and tablets can be especially helpful in sharing experiences in the "here and now" with others who may be close by or on the other side of the world.[2] Many readers will be far more informed about useful outdoor education apps than I am!

Innovative methods

So far, much of our discussion has been on product-based innovation. Innovation of outdoor education methods can be very simple and powerful, however, like teaching maths on the high street or learning about the carbon cycle whilst around a campfire.

There also is a strong case for what could be termed "de-innovation." Indigenous people have always lived lightly on the earth, and embracing their ways of "being" on the land may be an especially appropriate pathway for certain outdoor education programmes to consider (see Cohn, 2011; Mullins, Lowan-Trudeau, & Fox, 2016). Indigenous or not, the notion of going "low tech" has a certain appeal in that it may reduce costs and the likelihood of a fancy piece of technology failing in the field, with little prospect of being able to repair it. All of this points to what has been labelled "slow pedagogy" in education circles (Payne & Wattchow, 2008) and "slow adventure" (Varley, n.d.) in tourism studies. Slowing down is about removing society's obsession for maximum efficiency and minimum burden (Henderson, 2003).

Faced with burdensome tasks that demand psycho-motor, cognitive and socio-affective effort, students may become more deeply and meaningfully engaged with the people, physical objects, and concepts with which they are interacting. Seen this way, there is a strong case for interrogating our use of products and methods that uncritically reduce the effort required to complete an educational task. Thinking carefully about our choices is important here; I am not arguing for us to artificially increase burden by putting rocks in our rucksacks or by bringing several guidebooks instead of a lightweight tablet with flora and fauna apps. Innovation and technology have their place, but the secondary, often unintended, consequences of their incorporation into our programmes demands due examination.

One area that is worthy of further exploration is how more subtle innovation methods can be employed. Loynes (2016) proposes that educators might deliberately use what he calls "third spaces," where neither the educator nor student is an expert. As discussed by Waite (2013), who draws on Bourdieu's work, settings where no one party possesses a high proportion of capital (in whatever form) may serve to neutralize power relationships between teachers and students, and among students more generally. More neutral educational settings may open the possibilities for multiple ways of being and learning — options which may not seem obvious or viable in many conventional sites for learning (both indoors and outdoors).

The four features of what Mike Brown and I call "adventurous learning" may also be instructive in terms of providing educators with theoretically driven guidelines for re-examining practice in ways that may elicit a much deeper student engagement (Beames & Brown, 2016). Seen this way, innovation may involve more deliberately incorporating items of uncertainty into teaching, where students (and teachers/instructors, to a degree) are not entirely sure of the specific ways that intended outcomes may be reached. Innovation can come in the form of agency, where students have the power to shape what is learned and how it's learned. It can mean grounding more of our practice within "authentic learning contexts," where students are engaged in real-world inquiry that is explicitly linked to life and learning, before and after a given educational experience. Finally, innovation can mean students gaining a certain depth of knowledge, skill, and judgement that cannot be arrived at from exam-driven indoor classes or adrenaline-fuelled adventure taster sessions.

Points for practice

Innovations (or improvements) in education take the form of ideas, methods, and products. I've argued that outdoor educators need to recognize how some innovations may add unwanted layers of clutter that reduce direct interaction with geophysical, ecological, and sociocultural elements of the landscape, whilst lessening the quality and quantity of interaction between humans — whether with classmates or community members.

Early in this paper, I suggested that the broad aims of education include developing individuals who are thriving and who care for others and for the planet. Within our fast-paced, fluid society, outdoor education needs to be innovative to play a useful role in young people's overall educational enterprise. We must beware, however, of accepting technological innovation for its own sake. The key, in my view, lies in embracing ideas, methods, and products that increase the amount of meaningful engagement that learners have with people and places. This is about making sound educational decisions about the strategies we use to better our practice. To this end, any talk about innovation must not obscure our own specific primary aims. Educators must begin by asking, "What are my educational objectives and what are the best ideas, materials, and methods needed to arrive at them?"

Notes

1. The 2007 movie *The Story of Stuff* illustrates the global problems associated with perpetual cycles of extraction, production, distribution, consumption, and disposal.

2. Fusing locally situated practices with "global others" is part of what Hawkins (2014) calls "critical cosmopolitanism."

References

Aristotle. (2000). *Nicomachean ethics* (R. Crisp, Trans.). Cambridge, England: Cambridge University Press.

Australian Government (2017). *National innovation and science agenda*. Retrieved from http://www.innovation.gov.au/

Bauman, Z. (2007). *Liquid times: Living in an age of uncertainty*. Cambridge, England: Polity Press.

Beck, U. (1992). *Risk society: Towards a new modernity*. London, England: Sage.

Beames, S., & Brown, M. (2016). *Adventurous learning: A pedagogy for a changing world*. New York, NY: Routledge.

Beames, S., Christie, B., & Blackwell, I. (2017). Developing whole school approaches to integrated indoor/outdoor teaching. In S. Waite (Ed.), *Children learning outside the classroom: From birth to eleven* (pp. 82–93). London, England: Sage.

Bloom, B., Engelhart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives, Handbook I: The cognitive domain.* New York, NY: David McKay.

Brown, V., Harris, J., & Russell Morrison, J. (2011). *Tackling wicked issues.* London, England: Earthscan.

Carson, R. (1962). *Silent spring.* London, England: Penguin.

Cohn, I. (2011). Indigenous ways—fruits of our ancestors. *Journal of Adventure Education and Outdoor Learning, 11*(1), 15–34.

Costa, A., & Carrilho, T. (2016). Partners in learning and innovative teaching practices. An approach to conservation education to suit the context and purpose of learning skills in the 21st century: A pilot study. *International Zoo Yearbook,* 50, 1–4.

Cuthbertson, B., Socha, T., & Potter, T. (2004). The double-edged sword: Critical reflections on traditional and modern technology in outdoor education. *Journal of Adventure Education and Outdoor Learning, 4*(2), 133–144.

Dewey, J. (1916/2004). *Democracy and education.* Mineola, NY: Dover.

Henderson, B. (2003). Technology and outdoor travel/education: Baking bannock, hauling your own load and post-trip saunas. *Pathways, Spring, 15*(2).

Loynes, C. (1998). Adventure in a bun. *Journal of Experiential Education, 21*(1), 35–39.

Loynes, C. (2016, March). Brilliant residentials: Transforming the experience of teaching and learning in UK primary and secondary schools. *Cross Institute Seminar Series.* Lecture conducted at the University of Edinburgh, Scotland.

Morrison, K. (2008). Educational philosophy and the challenge of complexity theory. *Educational Philosophy and Theory, 40*(1), 19–34.

McClain, L., & Zimmerman, H.T. (2016). Integrating mobile technologies into outdoor education to meditate learners' engagement with nature. In L. Avraamidou & R. Wolff-Michael (Eds.), *Intersections of formal and informal science* (pp 122–137). New York, NY: Routledge.

Mullins, P., Lowan-Trudeau, G., & Fox, K. (2016). Healing the split head of outdoor recreation and outdoor education: Indigenous knowledge from multiple perspectives. In B. Humberstone, H. Prince, & K. Henderson, *Routledge international handbook of outdoor studies* (pp. 49–58). Abingdon, England: Routledge.

Orr, D. (2004). *Earth in mind: On education, environment, and the human prospect.* Washington, DC: Island Press.

Oxford Dictionaries. (n.d.). *Innovation*. Retrieved from http://www.oxforddictionaries.com/definition/english/innovation

Payne, P., & Wattchow, B. (2008). Slow pedagogy and placing education in post-traditional outdoor education. *Australian Journal of Outdoor Education, 12*(1), 25–38.

Ritzer, G. (1993). *The McDonaldization of society: An investigation into the changing character of contemporary social life*. London, England: Pine Forge Press.

Roberts, J. (2011). *Beyond learning by doing: Theoretical currents in experiential education*. New York, NY: Routledge.

Ross, E. W., & Gibson, R. (2006). Introduction. In E. W. Ross & R. Gibson, *Neoliberalism and education reform* (pp. 1–14). Cresskill, NJ: Hampton Press.

Varley, P. (n.d.). *Slow adventure: Tourism in hyper-modernity.* Unpublished manuscript.

Waite, S. (2013). 'Knowing your place in the world': How place and culture support and obstruct educational aims. *Cambridge Journal of Education, 43*(4), 413–433.

Zimmerman, H. T., & Land, S. (2014). Facilitating place-based learning in outdoor informal environments with mobile computers. *TechTrends, 58*(1), 77–83.