The Legacy Of Maps: Breaking The Link Between Maps And Navigation In Order To Experience Place

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Abstract

Embedded in all outdoor activities, are a set of values that reflect the cultural conditions of the time in which the activity was first developed for educational purposes. Using Bernstein's curriculum constructs, this paper examines what, in relation to navigation, these values are, from where they arose and whether and in what way these values are present today. The alternative of navigation without maps and compasses is then considered. It is argued that any values embedded in outdoor activities can be altered in order to fully develop their potential for a place-responsive education. That the values embedded in the traditional approach to navigation were not intended for a place-responsive education is highlighted. A study using a participative approach was designed and repeated with four cohorts (n = 86). A participant led thematic analysis compared experiences with and without maps and compasses. Participants with maps and compasses objectified the landscape and treated the activity as a task reproducing the norms of the activity. Those without described a different relationship with the landscape and tended to construct their own experiences. The author suggests two benefits of these findings for a place-responsive education. Approaches that remove the mediating tools that distance people from place, and the values attached to them through ritualised practices, create richer starting points for an education that seeks to promote relational and sustainable values.

Keywords: outdoor education; place-responsive education; participative enquiry; values education; navigation.

Introduction

An aboriginal national park ranger from Australia and I were discussing whether there are differences between the ideas of 'wilderness' and 'bush'. In attempting to define wilderness I commented that it was a place where, without a map, I could get lost. He replied *'Ah, they are different. How can I be lost in my own home'.*

Whether a 'wilderness' or a 'home' exploring places is often mediated by maps, GPS and other electronic means, and navigating by map has long been a central skill in outdoor education. This paper examines the ways in which maps influence engagement with landscapes and considers the implications for a place-responsive education of sometimes navigating without maps.

The paper starts from two premises. The first is that all outdoor activities are embedded in a set of values that reflect the cultural conditions of the time in which the activity was first developed and that these can persist in the rituals, technologies and symbols of the activity when they are transformed into educational experiences (Beames & Pike, 2013). In an earlier paper (Loynes, 2004) I explored the values I suggest were attached to the use of maps and compasses as tools for navigation when they were adopted for educational purposes over one hundred years ago. The findings of an empirical study that set out to examine in what way these values are present today in the task of navigation, how they are reproduced or can be transformed, what their impact is on the experiences of navigators and what difference it would make to the educational outcomes of navigation if maps and compasses were not used, are explored.

The second premise is that it is worth understanding the underlying values embedded in outdoor activities in order to ensure congruence with emerging educational goals. There has been an international call for outdoor education to contribute to education for sustainability with place responsive approaches, for example from Higgins (1996) in Scotland; Cooper (1998) in England; Bonnett (2004) and Orr (2004) in the USA; Hill (2012) in New Zealand and more recently Mannion & Lynch (2016).

However, Sandell (2001) and Nicol (2002) comment that some of the claims of place responsive outcomes that are made for direct encounters with nature are dubious especially when mediated by adventurous activities. They both claim that, counter to belief, such experiences do not necessarily of themselves lead to enhanced environmental knowledge and values or pro-environmental behaviours. Hill (2012) also argues for a pedagogical change to the traditional educational approach of using adventure activities as the medium with which to encounter nature. Cuthbertson, Socha & Potter (2004) also raised questions about what they considered to be a thoughtless embrace of new technologies as mediators of outdoor experiences commenting *'... potential positive impacts for participants can be compromised, including a direct and meaningful connection to the natural world'* (p. 133). The authors express concern that technologies can impact on outdoor pedagogy by distancing students from the storied landscape, wilderness skills that promote a closer understanding of nature and that can lead to *'profound learning opportunities'* (p. 141). Whilst Cuthbertson et. al. are concerned by the introduction of GPS and electronic navigation devises, it is also worth examining the thoughtless use of traditional technologies such as maps and compasses as mediators of the natural world.

Wattchow and Brown (2011) suggest that developing place-responsive approaches to outdoor education could make a substantial contribution to current educational priorities concerning the environment. The authors critique orienteering in particular as rushing from place to place focused on map and compass and oblivious to the place participants are in. Hill (2013) concurs adding that experiences of places close to home offer more potential for nature connection than remote, wilderness settings. Research exploring outdoor experiences in England and Wales, including outdoor education, found that they do lead to nature connection and, with the right quality and quantity of experience, pro-environmental behaviours (Lumber et al, 2017). In a 13 year national study they conclude that five pathways lead to nature connection: *'contact, emotion, compassion, meaning and beauty'* (p.1). A survey of Swedish educational practices, identified six potential environmental education benefits of direct encounters with nature: an experience-based meaning of nature; a relational ethical perspective; human ecology in practice; adding a perspective to sustainable development; sensing the quality of a simple life; and enhancing democracy, identity and dwelling (Sandell and Ohman, 2010). Nazir and Pedretti (2016), in a case study of Canadian outdoor educators, found that *'environmental consciousness involves connecting people to their environment, fostering care for the environment, and building agency for the environment'* (p.288). The authors claim this requires *'deeply engaging experiences that afford authenticity, multidimensionality and serendipity'* (p.288).

The question raised is that, if an activity as ubiquitous and fundamental to outdoor education as navigation reproduces certain values, what educational goals do these values support and which do they hinder? In particular, would navigating without map and compass offer experiences more or less suited to the purposes of place-responsive approaches to education,? Are concerns about risk valid and, if so, what alternative strategies could manage

these? What kind of engagement with nature occurs when people navigate with or without a map? The empirical study set out to explore these questions.

False Claims

Outdoor educators often make claims for nature connection as an outcome of outdoor adventure. Nicol (2002), in a study of the evaluation data from Scottish outdoor education centres, and Sandell (2001), in comparing one off outdoor education experiences with repeat visits, found that claims for a lasting connection with nature as a result of an outdoor adventure activity were uncertain. When the mountains are left to speak for themselves, Nicol suggests, environmental outcomes are unreliable and unpredictable. Those that do occur might engender an excitement for certain sensual and aesthetic experiences but typically do not lead to connections with knowledge of wider concepts or engender actions informed by a fuller knowledge. As Nicol claims, drawing on John Dewey, discovery learning is not always sufficient of itself. A facilitated engagement with a wider body of knowledge may well be necessary to complete the process of learning from experience.

Studies by Mikaels (2018) suggest that place responsive cultures such as Sweden, a culture that widely embraces *friluftsliv* (literally open air life), is nevertheless influenced by a different pedagogy. In his study physical education teachers tasked with providing *friluftsliv* in schools approached the task with a focus on the activity. In the process Mikaels found that the place responsive benefits were absent or diminished.

However, Sandell and Ohman (2010), in a study also based in a cultural tradition with a different historical approach to human nature relations than that in the UK, found that everyday encounters with nature mediated by a range of activities and over many years did

develop norms of pro-environmental behaviour such as appreciation of and care for plants and animals. It is not clear if the practices observed in either this study or Nicol's (2002) involved maps. Nevertheless, the difference between their conclusions hints at cultural differences perhaps embedded at a semiotic level in the two sets of practices of one of adventures in remote places and progressive adventures close to home. One possibility is that these differences may be found in the norms associated with the activities used to mediate the encounters with nature.

Most outdoor education experiences are, in part, facilitated by the activity that mediates between the participants and the landscape, such as hill walking or canoeing (Nicol, 2002). Many of these rely on navigation as a key part of the activity. In an earlier paper I suggested that certain values from the culture of the time when the activity was developed are embedded in it (Loynes, 2004). I argued that the activity continues to reproduce these values and represents them to participants each time the activity is conducted. As a result, I claimed, a particular set of values is reinforced within society or within a social group.

As many outdoor activities were developed in different social contexts it is possible that the values that they implicitly represent do not support the educational purposes of the day, such as those of place responsiveness. Brookes (2002), discusses Australian outdoor education and the colonising influence upon it of British practices. He observes that activities imported from one culture to another without careful thought to the new environmental and cultural context are abstract in form and as such are impoverished as educational experiences of that place. It is possible to consider activities, such as navigation, developed in another time rather than another place as also 'colonising', in this case colonising the future.

Likewise, they may also be ‘impoverished’ and are, at the very least, worth some critical reflection.

Activities as Discourse

Bernstein (1996) theorised that activities are regulated by a set of values embedded in the context in which they take place. He suggested these values are reproduced in the rituals, technologies and symbols of the sport, craft or profession. He called the interaction between the activity and the field in which it is embedded the ‘regulative discourse’, implying a process of interaction reproducing the norms of the activity from place to place and generation to generation.

Bernstein (1996) was interested in the transformation that he claims can take place when an activity is disembedded from its social context and brought in to the educational field. He claimed that there is a creative opportunity to transform the activity, its values and the way these are reproduced or transformed. He thought that, in the educational context, the educator plays a major role in reproduction and so he called it the ‘instructional discourse’. McCulloch (2004) describes this process with regard to sail training which uses the technologies and practices of commercial sailing vessels but for educational purposes. In order to be sailed these ships require an ordered and hierarchical chain of command including watches (groups of the crew with specific duties at specific times), watch leaders, a first mate (second in command) and a ship’s master. These circumstances, McCulloch points out, by necessity, offer young people certain opportunities to experience power relations and exclude others regardless of any pedagogical factors.

Bernstein (1996) describes the moment of transition as an opportunity for change, offering a brief moment with radical potential. However, he comments that, once a change has occurred and the practice and meaning of the activity have become set, it is hard to change it again. The new practices and meanings are, he claims, quite robust. Bernstein also points out that the opportunity for transformation is not always taken resulting in the values and practices being unchanged despite their new context, a point that McCulloch (2004) bares out.

A further potential for transformation lies, Bernstein (1996) argues, in the power relations in the regulative and instructional discourses of the educational context in which the activity is now embedded. In what he calls a collection style curriculum, the knowledge and skills offered are determined high up a hierarchy of educational power maintained by subject disciplines and the staff who teach them. The alternative, Bernstein suggests, is an integrated style of curriculum in which what is thought to be meaningful about an experience is determined by the students resulting in a more dynamic discourse about the activity. In this situation a second radical opportunity for the transformation of the meaning and value attached to an experience is created.

Nicol (2002) describes elements of transformation at work on a larger scale during the history of outdoor education. He discusses how moments of discourse in the field of outdoor education for schools during the latter half of the twentieth century led from an activity oriented explanation with little to distinguish it from the recreational contexts from which they were adopted to a rationale for the experience of adventure and its benefits in the personal and social development of young people. Loynes (2007) described how the process of transformation occurred in outdoor youth work at the beginning of the twentieth century. In

this case the transformation was from the role of boys acting as scouts in a war to the Scouting movement founded by Baden-Powell. Navigating with maps and compasses was adapted for use in an educational context making the Scout movement highly influential in the repurposing of maps and compasses.

Any involvement in outdoor activities in their educational form, Bernstein argues, can thus be understood as a discourse with the values represented by the regulative and instructional discourses rather than just as a neutral milieu from which experiences arise. In other words, these activities can represent implicitly the norms of the original activity together with any transformation that took place as they are transferred to new educational contexts. In addition, if the curriculum framework is an integrated one in which the student holds the power to determine the meaning of experience, these norms may be in constant negotiation.

Navigation as Colonisation of the Future

There are indications that educators were well aware of the transformative potential of an activity moved from one context to another. Smith (1997) describes how Baden-Powell, an army colonel in the late 19th century, was impressed by the developmental benefits for young boys working as scouts during the Boer War. In particular he was impressed by their self-reliance, self-discipline and their internalisation of a moral centre around values such as reliability, accuracy, punctuality, consistency, loyalty, fitness and team spirit. Baden-Powell considered the Scouting movement he founded to be a moral alternative to war and labelled the Boy Scout Movement as offering an education for a good citizen. He believed that the ability to use a map and compass to control movement in hostile terrain both in space and in time led to the outcomes he valued. In turn, he thought these outcomes contributed to the moral development of a good citizen, character building.

The values he saw as imbued in young scouts navigating in a war situation were the same values he sought to reproduce in the Scout movement in general and navigation in particular as war's moral equivalent. In what Bernstein (1996) would classify as the strong 'collection' style curriculum of the Scout programme first articulated in 'Scouting for Boys', Baden-Powell saw a solution to the development of obedient and compliant citizens for the early 20th century (Cook, 1999). For Baden-Powell navigating with maps and compasses was symbolic, a regulatory discourse in Bernstein's terms, of the ability for self -control and self-reliance expressed outwardly in space and time. In Smith's (1997) view Baden-Powell thought that such outward expressions of a set of values rubbed off on the behaviour, values and the inner moral centre of a Scout. So began a long process of the reproduction of values and outcomes thought to reside in the use of maps and compasses for the personal development of young people throughout the 20th and into the 21st centuries.

Navigation, Hostile Nature and Place Responsiveness

The use of maps and compasses as an aid to navigation was chosen for this study because it is so widespread as an activity. It provides an example of the mediation of the relationship between people and the landscape and with tools and techniques that were embedded into educational forms of outdoor activity over 100 years ago. As such it provides an opportunity to examine directly the way in which the values reproduced by an activity affect the nature of the relationship between people and place and so the potential place responsive outcomes from the experience.

In the war zone situation, the outdoors was understood as hostile. Scouting continued an understanding of the outdoors as unfamiliar and hostile (Loynes, 2007). The art of

navigation flourished in a way that sustained the values of control of movement in space and time by boys that were understood as intrepid interlopers in an adventure space. This attitude remains widespread in the adventure education of today (Ogilvie, 2012). For example, the widely popular Duke of Edinburgh's Award gold expedition standard requires a four-day journey through unfamiliar and wild countryside following a pre-designated route and arriving at each checkpoint according to a pre-determined time plan (Duke of Edinburgh's Award, 2019).

It is interesting to note that Baden-Powell did not only use maps and compasses for navigation. Trail setting and following were and still are popular with Scouts. However, it is the map and compass that has dominated British outdoor education practice during the 20th and 21st centuries. The symbolism of self-control in space and time has been an excellent tool for many outdoor personal development programmes. For example they have acted as a metaphor for maturation, such as the 'navigation of pathways' to adulthood (Bacon, 1983), and as a metaphor for project management in organisations (Doughty, 1998).

At the same time, it should be noted that the practice has made a significant contribution to the safety of adult led and self-reliant youth groups in the intentionally unfamiliar landscapes of the British hills. Planning a route, staying on course and arriving on time are useful safety techniques as is the ability to re-plan on the move according to the conditions of the weather and the group (Duke of Edinburgh's Award, 2019).

While some outdoor educators are clearly aware of the values and practices embedded in the approach, I suggest others have been using them implicitly or without any reflection. My concern here is that, though the values embedded in navigating by map and compass are

valued in personal development work, they may be unhelpful for other objectives such as those of place-responsive approaches to education. It is not my intention to downplay the critical role maps and compasses play in inspiring people to make journeys and maintaining their safety along the way (though I do claim that there are safe ways to be outdoors without map and compass). My concern is that, while this remains the dominant and established way of best and safe educational practice, consciously or otherwise, the potential of other ways of navigating are unavailable to the educational discourse. The field is also in a period of transition to new electronic ways to navigate (Cuthbertson et al, 2004). Reflection on how these new approaches affect place responsiveness would seem helpful. The values that are represented through the discourse of the activity may be counterproductive to certain educational aims. Unaddressed, it could contribute to the false claims of unmediated adventure education leading to nature connection and place responsiveness identified by Nicol (2002).

Methodology: Co-Operative Inquiry On The Hill

The study was designed to explore the differences between navigating with and without a map and compass might offer to outdoor educators interested in place responsive outcomes. A group of 24 students attending an Outdoor Studies undergraduate degree course formed the first study group. The study was repeated three more times in successive years with similar groups of students ranging from 16 to 30 in number (n = 86: 41 female, 45 male). The study was granted ethical approval by the University of Cumbria ethics committee. Informed consent was gained from all participants. The same time of year, late autumn, the same location and the same method were used each time.

A hill (locally known as a'fell') unknown to any of the participants and with open access was selected. It is approximately 1.3 kilometres west to east by 2 kilometres north to south with a height of 317 metres. The base of the hill lies at 150 metres and a minor road runs around it, providing a boundary for the activity. It is open access land, that is the public can walk anywhere on the fell. The landscape is one of rough and uneven slopes with rocky outcrops especially to the south. The southeast side is wooded with a mixture of mature native and non-native trees and the rest of the hill is partially covered in mature native woodland. Otherwise it is moorland and marsh. Streams run off the hill in all directions and there is a small lake in the centre. A series of footpaths and old stonewalls criss-cross the hill. Most of the walls are in ruin and can readily be crossed. The streams are all small enough to jump easily. To the northwest there is a large disused slate quarry where the activity started and finished each time. The hill is surrounded by higher fells that rise to almost 1,000 metres. There are views of these and the intervening valleys from the upper slopes. There are few buildings except for one farm hidden at the base of the hill on the west side. The road is also largely out of view.

Each year participants were invited to participate in the research a week ahead. Written informed consent to co-operate as research participants in an experiment to explore any differences found in navigating with and without maps and compasses was obtained. On arrival mid-morning a group was randomly split equally in two. Only one half received maps and compasses. On each occasion all participants were briefed together. At this stage they were only briefed on the activity and were invited to explore the fell as they chose and to return within three hours. By chance the weather conditions were remarkably similar on each occasion. Students not back at the start within three hours were briefed to make their way downhill. The fell is ringed by a minor road which could then be patrolled to find them. If a

rendezvous was unsuccessful then a search would be implemented and emergency services informed according to the University's standard operating procedures and the risk management plan for the activity. It should be noted that the students involved were studying Outdoor Education in their third years and were all experienced hill walkers, some with professional qualifications in the activity.

The experiences were interpreted by the students using a co-operative inquiry approach (Reason, 1988). The participants were the source of the evidence used in analysis. Co-operative inquiry is an equitable approach that understands participants as co-researchers of their own experiences. In this case, participants were understood as the 'experts' who provided narratives of where they went, what they did, what they noticed, how they felt and how they interpreted these experiences. In addition, they worked together, under the supervision of the 'expert' researcher, to identify and analyse themes in the narratives they co-created and to discuss their significance. The 'expert' researcher then provided ` critical interpretation of the themes and the discussion.

After the students returned to campus they were kept in their two sub-groups and asked to further divide into pairs. The purpose of the study was explained and the students were asked to interview each other about their experiences on the hill. They were told to take notes and then to identify key elements of the narrative of their partner that they considered to be of interest to the study. This summary was fed back to the narrator and adapted if he or she chose to make changes. Each student then summarised their narrative to the sub-group and, together, the sub-group looked for patterns and clusters of similar experiences. They were also asked to note the experiences that were felt by participants to be important but were not reported by others. These results were then documented and presented to the other sub-group. The implications to the study as they understood them were then discussed and the analysis

was documented by the researcher. The researcher then undertook a further critical analysis of the results of the co-operative analysis. This was also shared with the whole group for comment a week later. The final version of the analysis was treated as the findings of the study. The four sets of findings from the four repeats of the study were then integrated.

Co-operative inquiry respects the participants in a study as co-researchers giving their voices equity with the 'expert' researcher and giving them a conscious research role whilst the evidence is generated, collected and analysed. This has potential limitations as does the specific design. Participants were aware of the purpose of the study and so may have made choices during the activity and in the analysis based on their knowledge. There is also a risk of group think developing as pairs generated and analysed their narratives. Group think' is a normal part of this kind of outdoor activity and so is, in part, a legitimate subject of the inquiry. Also, the comparatively large sample used in the study helped to ensure that an extensive range of responses to the activity was generated. During analysis this was further mitigated by having pairs conducting their analyses out of earshot of other pairs and by repeating the study four times. It is not easy to imagine another method by which this question could have been addressed. In addition, the enhanced authenticity and quality of the evidence and the analysis that is achieved by participants reflecting on their own experiences was considered worthwhile.

The participants were mostly in their late teens or early twenties with a strong interest in the outdoors and significant levels of skill and knowledge. It is possible their attitude, confidence and comfort levels were affected in relation to the task. The landscape of a fell is also a specific kind of navigational problem and offers certain kinds of opportunities for

exploration. The interpretations that follow should be read with this in mind. The possibilities that are presented here need to be treated cautiously with other groups in other locations.

The map used was the 1:25,000 Ordnance Survey (1998) map. It was chosen as the map most frequently used for navigation by educational groups in the area. Other maps of the British Isles are increasingly available including electronic versions. Some have been developed to support specific activities such as orienteering. Others have been drawn from a philosophy of map making that seeks to represent the landscape in a more realist and specific rather than abstract way. An example of the latter are Tim Robinson's (1980) maps of Galway in Eire. Other parts of the world will increase the diversity of style and scale available. Using different maps would potentially lead to different outcomes.

Findings

The findings of the students showed considerable areas of consistency between the groups over the four years and remarkably consistent distinctiveness between the findings of the sub-groups. Table 1 compares the findings of those with and those without maps and compasses combined over the four years. Lines one to six describe strongly consistent differences between sub-groups and across the years. Lines seven to ten were tendencies with some counter narratives between sub-groups and across the years. Line ten is a similarity that was not achieved by only one participant and this discrepancy will be discussed below.

Table 1: Comparison of the perceived experiences of the groups with and the groups without maps and compasses

	With maps	Without maps
1.	Stayed in larger groups. One person tended to map read and the same person often took responsibility for choices of destination.	Worked in smaller groups or went solo. All involved in choices of direction.

2.	Orientated using map, compass and distant fells.	Orientated using slope of the ground, wind and sun.
3.	Used human made 'handrails' to navigate by, such as footpaths and walls.	Avoided overtly human elements in the landscape. Followed natural features such as streams and animal trails. Walked to distinctive visible objects such as rocks or trees.
4.	Chose destinations out of line of site and walked to them –the fell top, the tarn, the crags.	Walked to distinctive visible objects such as rocks or trees. Rarely went to the top.
5.	Planned routes and worked out timings.	Intentionally did not plan routes or work out timings.
6.	Covered greater distances. Kept on the move.	Stopped frequently to observe surroundings or talk with other students in the group.
7.	Noticed the view.	Talked about wildlife, colours, forms of rocks and trees. Described events such as swimming in the tarn and climbing trees. Commented frequently on experiences of the elements. Brought back natural objects as trophies.
8.	Tended to stop to interact with other groups of students or other people.	Tended to avoid other student groups or other people.
9.	Rarely mentioned seeing wildlife.	Often mentioned seeing wildlife.
10.	Tended to be thinking ahead.	Tended to be in the moment.
11.	Were back on time.	Were back on time.

Both groups with and without maps commented that, whilst some experiences were distinctive to a sub-group – such as the swimming (*'we didn't think to go swimming, it would have slowed us down'*), the solo preference (*'it was easy without a map to wander off on my own'*) and avoiding constructed features (*'I found it easier to follow man (sic) made features*

from the map') for mapless sub-groups, other experiences were shared by both groups but not always understood in the same way. In these cases, they thought that the differences were more to do with meaning. For example, both groups saw wildlife but those without maps counted these sightings as more significant to them and so commented on it more often.

> *We stopped to climb a tree and (name removed) saw a lizard so we crouched all around it to watch. I've never seen one before.*
>
> *Oh, we saw ravens and a buzzard circling but that's not what we were really there for I suppose.*

The groups without maps and compasses discussed how the accounts that they gave of their experiences focussed on sensual and emotional responses to the place. *'It was great to feel the wind and the spray and I got my hands dirty from the rocks; it's got this smell. I got excited.'* Perhaps their experiences were more place responsive. They claimed to have felt that they spent more time *'...in the moment. I didn't need my watch'*. They felt that they tended to become *'familiar, like its homely,'* with the place developing concrete, embodied and emotional responses with it (*'I just wanted to hug the tree and float on the lake forever and all at once'*. They described diverse, internally motivated experiences and, in some situations, understood nature as of intrinsic (*it (the lizard) looked so at like at home)* as well as instrumental value (*...could hear the beck (stream) so you couldn't get lost.').* The sub-groups with maps were often mildly embarrassed that this had not been a part of their experiences, *'I wish I'd gone without a map'.*

Using Bernstein's approaches to educational activities the task can be understood as an integrated curriculum in which the students had considerable agency in relation to the content of their education, its significance and its meaning. Individuals had different experiences on different parts of the hill that held diverse meanings for them. Despite the

apparent lack of a regulative or instructional discourse to frame the experiences the fact that similar responses occurred in each of the four groups does suggest some structuring of the experiences perhaps linked to the affordances of the hill, swimming and tree climbing for example, or the underlying ethos of the shared degree course, perhaps an interest in wildlife.

The groups with maps and compasses recognised that their accounts focussed more on the task of getting around and what occurred to them at their destinations. They suggested that their experience was more conceptual and that they treated the environment largely as instrumental or as a view held at a distance. They thought that they had spent *'less time in the moment'* and more time *'thinking ahead about how we could get to the top'*. In many ways they tended to remain unfamiliar with the place (*'I couldn't go back their without the map')* increasing their abstract knowledge of the map and the task of navigating *('.. got my eye again with map to ground')*. In these groups the participants described similar externally motivated experiences (*'... good for the nav module assessment)*. In Bernstein's theoretical framework the map somehow introduced a regulated curriculum acting as a substitute for the teacher and providing an instructional discourse that the participants followed.

The groups with maps and compasses commented that they felt bound to act as they would normally if working with a map and compass in the outdoors *'as though we had blinkers on'*. The groups without maps and compasses reported that they felt liberated by the lack of these aids and set out intentionally to explore the fell in a different way, *'it was liberating, you know, without the map, once you got over not having one'*.

This could be understood as a 'pygmalion' effect (Rosenthal, 1968) in that the students simply met the study's expectations of their performance. Bernstein also claimed that

the instructional discourse influences more or less the performance and its meaning. In other words, by the researcher's design, the study participated in the normalisation of the use of the maps and compasses and their educational meanings, framing navigating without a map as unconventional. However, there were no expectations of how they might be used. Indeed, giving each student in the group a map and compass was intended to leave open the possibility of individuals or small groups going in different ways which they repeatedly chose not to do. Likewise, the distinctive experiences of the groups without maps supports the hypothesis that the instructor/map/compass system has a powerful normative role. As such it is my view that any normative behaviours were largely represented symbolically by the navigation technologies and structured by the cultural narratives concerning navigating with maps.

Discussion: Maps In Mind

These last remarks suggest that certain traditions of working with maps and compasses are deeply embedded in and reproduced by these tools. They act as symbols of a particular way to relate to the outdoors, a particular regulative discourse, even when the instructions given, described above, did not lead the participants to use them in any special way.

The participants with maps and compasses described themselves as being instrumental in their approach to the place, seeing it as a context for a task. In the absence of the instructional discourse providing a specific task, these groups were encouraged by the presence of the tools for navigation to develop goals for themselves. The mapless groups tended to interpret their experiences as relational highlighting both embodied and environmental knowledge. The lack of maps and compasses elicited an integrated curriculum

approach encouraging the students to determine the experiences they had for themselves. It is possible that such an outcome has the potential to encourage a familiarity and a feeling for place that could lead to a desire to spend more time there, understand how to be comfortable in the place, be aware of how to minimise impact on it or to look after it. However, in this study it is a latent potential at best. What is of interest is that, in the absence of maps and compasses, it is what these groups chose to do.

The participants discussed at length how it was possible for people in both groups to return on time. Those with maps and compasses felt it should not be possible for those without to be punctual. Those without maps and compasses reported no anxiety about getting back on time. Their conclusion was that, whilst the evidence reported above suggested the focus they placed on their experience was primarily sensual and aesthetic, they also developed spatial and temporal knowledge of the place enabling them to navigate. There was a conceptual element to their experiences that provided an inductive concept of the place, *'a map in the mind'* as one participant described it, and the mind map had a temporal as well as spatial dimension.

Table 1 indicates the elements that were 'documented' on the mind 'map'. It suggests that the mapless participants quickly developed a concept of the elements, of themselves and of others, including other species, in the place. Ontologically and epistemologically the two groups were significantly different. Whilst those with maps reported on and made use of human made objects in the landscape such as walls and paths, those without focussed on 'natural' features such as streams, rocks and trees and even reported avoiding walls, cairns and paths. In addition, the landscape features for those with maps were instrumental in achieving abstract purposes such as reaching the summit. On the other hand, those without

maps frequently described experiences that recognised an intrinsic value in their encounters with nature.

By removing the particular navigational tools of maps and compasses and changing the regulatory and instructional discourses they represent, a different place responsiveness can occur. In this case, those with maps and compasses experienced a task realised through the long established discourse provided by maps and compasses and used cultural features in the landscape to achieve it. Those without experienced a place constructing their own diverse senses of it. The lack of maps and compasses largely took away both the regulatory and instructional discourses. A different set of values with different place responsive potential emerged. These outcomes are worth reviewing for their potential to engage learners with nature in a more sympathetic and relational way or, as Nazir and Pedretti (2016) suggest, more authentic, multidimensional and serendipitous ways. In addition, the mapless approach does not support the powerful if unachievable assumption of human control of movement in time and space in what are in fact dynamic environments explored by dynamic human beings. There are significant benefits to and potential for place responsive education. in such powerful shifts in the discourse of the activity of navigating.

As Baden-Powell anticipated (Smith, 1997), it seems that navigation with maps and compasses can transmit values. These navigational tools encourage a particular discourse with a certain set of values for relating to place and with particular educational potential. In some cases, these values may be highly desirable. For example, they may support people in developing the capacity for self-realisation in a world that values individual agency in developing and pursuing a life path. However, they may also have unintended consequences reinforcing a set of virtues that encourage a world-view that places humans in superiority to

nature. They can also objectify the landscape as an abstract backcloth and maintain its construction as unfamiliar and even hostile (Loynes, 2007).

Implications: Moments of Creative Potential

The study suggests that, while the tools of maps and compasses acted as powerful symbols influencing the values and actions of the participants who used them, the removal of these tools created a moment of creative potential as Bernstein (1996) anticipated. The participants without maps and compasses were able to develop an alternative way to navigate on the hill within which a different set of values with different educational potential were present. So, it is possible to alter the underpinning values structure of traditional outdoor pursuits. The embedded values defining human nature relations can be shifted from values that, in this case, reinforce attitudes of control and dominance to values supporting a relational understanding of people and nature. The evidence suggests mapless navigation is differently place responsive and can contribute to at least four of Sandell and Ohman's (2010) six potential contributions of direct encounters with nature to environmental education, namely: an experience-based meaning of nature; a relational ethical perspective; human ecology in practice; and enhancing democracy, identity and dwelling. In addition, Lumber et al's (2017) five pathways of contact, emotion, compassion, meaning and beauty are all in play. Mapless navigating could give the outdoor educator a flying start if an understanding of human dependence on and relationship with nature becomes, as Higgins (1996), Cooper (1998), Bonnett, (2004) Orr (2004) and Hill (2012) propose, a central objective of current outdoor education. If so it does give the field a potentially powerful role in place responsive education.

This paper considers just one activity redolent with historical and cultural meaning. Different types of maps and map making will offer yet more possibilities. Sandell and Ohman's (2010) work has already indicated that different social constructions also exist in different cultural contexts. As Cuthbertson, Socha & Potter (2004) surmise, the discourse of the technologies embedded in other activities, ancient and modern, may well shed light on a range of, as yet, unconsidered 'voices' regulating the curriculum with an instructional discourse from other social and historical contexts. Revealing these less well understood influences could offer the outdoor educator a better understanding of what is being achieved and how it aligns with their educational intentions.

As the ranger and I discussed the concept of 'bush' further he commented *'I always know where I am. I just don't always know where everywhere else is!'*

Notes

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