Borderland Spaces for Learning Partnership: Opportunities, Benefits and Challenges

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Abstract

This paper uses case studies and secondary literature to critically examine how learning spaces inhabited by geographers might be used productively as borderland spaces for learning partnership. Borderland spaces are novel, challenging, permissive and liminal, destabilising traditional power hierarchies. In these spaces, students gain confidence in accepting agency in learning, moving towards critical thinking and reflective judgement, thereby developing self-authorship. They acquire new knowledge, skills and facets to their identity. They also feel anxiety as they take on new roles and adopt a partnership ethos. Faculty must guide students to support their successful navigation into and out of borderland spaces.

Key words: learning space, borderland, learning partnership, self-authorship, fieldwork, social media, peer assisted learning, student research

Background and aims

Educators around the world are increasingly recognizing that engaging undergraduate students actively in their learning experiences can be transformative for both students and faculty (Healey et al., 2014; Johansson & Felten, 2014). Encouraging students to become partners in learning (with one another and/or with faculty) enables them to assume greater responsibility for their learning (Little, 2011). Students as partners in learning can be demonstrated through their participation in course, curriculum and assessment design and delivery (Mihans et al., 2008; Bovill et al., 2011; Bovill 2014), their supporting one another through peer assisted learning and mentoring (Donelan & Kay, 1998; Capstick & Fleming, 2001), and their supporting faculty by acting as teaching and learning consultants (Cook-Sather, 2011; Cook-Sather & Alter, 2011). All these interactions are contextualised within physical and personal spaces, which are evolving as the higher education landscape shifts under increasing neo-liberal forces (Castree, 2011; Erickson, 2012). Crucial in this evolution is aligning our use of learning spaces with partnership in teaching and learning such that the capabilities of undergraduate students are enhanced. Graduates in geography and other disciplines should possess the knowledge, skills and values, such as self-belief, adaptability and inter-personal sensitivity, to enable them to cope with dynamic employment opportunities in an emerging knowledge economy (Spronken-Smith, 2013).

Within this context, we use case studies and secondary literature to:

i) identify and critically examine the opportunities for, benefits of and challenges to engaging undergraduate students as partners in learning through their inhabiting particular kinds of learning spaces;
ii) argue that if students and faculty inhabit borderland spaces both inside and outside formal undergraduate curricula and classrooms they will be prompted to move towards self-authorship through learning partnership.

Although there are many definitions of partnership in higher education, we view it as the process of joint working between students alone and with faculty, sharing inherent risks and rewards, but leading ultimately to enhancement for all concerned (Healey et al., 2014). Partnership affords students the power to co-create their learning, sharing responsibility with one another and with academic staff (Moore-Cherry et al., in press). As such, guided student-student and student-faculty partnership can have positive benefits for both parties. Pedagogic partnership can engage students more fully with their learning, enhancing their motivation and confidence, developing their meta-cognitive awareness and improving their learning experience and achievement (Healey et al., 2014). Faculty can find themselves re-thinking their practice and feeling reinvigorated with their teaching, adopting a reflective pedagogy and reconceptualising learning and teaching as a collaborative process (Bovill et al., 2011). The complexities of engaging undergraduate students as partners in teaching and learning, in creative borderland spaces, will be highlighted through the case studies presented, including activities where the partnership is most pronounced through peer relationships amongst students. These studies are drawn from the discipline of geography, but the supporting literature moves beyond subject-based contexts to highlight the generic nature of the underlying principles and practices. As such, the theoretical context, diversity of learning spaces, types of partnership, and identified benefits and challenges will be of interest to students, academic staff, professional services staff and academic developers irrespective of disciplinary alliances.

Theoretical context

Learning spaces

Learning spaces are places of engagement where 'often disconnected thoughts and ideas, that have been inchoate, begin to cohere' as a result of being in a place or position that stimulates a creative shift in perception or understanding (Savin-Baden, 2008: 7). Learning spaces take many forms, but are often categorised into physical (Euclidean) space and virtual, social and personal (Non-Euclidean) spaces. The physical spaces of learning may be formal venues, such as the lecture theatre or seminar room, or informal spaces, such as a café or corridor. Despite a desire to create a sense of inspiration

and belonging (Temple & Fillippakou, 2007), the built campus environment contains incipient organisational structures and governance that control space as both a site of learning and a site of power (Lefebvre, 1991). Architecture is often viewed as representing different pedagogic approaches; the lecture theatre can be equated with the passive transfer of knowledge, whereas new forms and layouts of teaching space are believed to facilitate more innovative and informal pedagogies (Thomas, 2009). However, as this paper will illustrate, traditional physical spaces of learning can be re-imagined by adopting flexible and creative pedagogies within (and beyond) them.

Virtual spaces have created further arenas for learning, discussion and knowledge creation (Lynch et al., 2008; Thomas, 2009). Although a Virtual Learning Environment (VLE) might be considered a constrictive space, Web 2.0 technologies have offered the potential of freer spaces and interactivity (Savin-Baden, 2008). An example is using a mobile device to access a VLE platform or digital library, or collaborative networking whilst commuting from campus or work. This type of space is increasingly blending with social space, which involves less structured discussions in informal settings, such as a café, bar or via social networking software, most commonly (but not exclusively) amongst peers.

Finally, personal learning spaces may be individual or triggered by learner-centred pedagogic approaches (such as social and active learning) that break down the division between teacher, learners and peers (Oblinger, 2005) to stimulate learning communities (Healey et al., 2014). Such spaces help to promote a mental state in which changes in perception and understanding can occur.

Thus, space is no longer defined solely as a passive physical entity but by 'learning' in a plurality of spaces that can be brought to bear by faculty and students as active constituents in learning (Oblinger, 2005). In reality, discrete conceptualisations of space are artificial; they can coalesce and overlap, as with blended learning approaches, where all four conceptions of space are brought together in the learning experience. The diversity of learning spaces inhabited by geographers, both Euclidean (physical) and Non-Euclidean (virtual, social and personal), is summarised in the left hand column of Table 1. The use of these learning spaces by faculty and students in a conventional sense, and as borderland spaces of partnership (which prompt holistic conceptualisations of space), is highlighted in the remaining columns of the table. Four case studies are flagged in Table 1 and these are used to critique student engagement in learning partnership in borderland spaces.

Self-authorship and borderland spaces for learning partnership

We should strive, as educators, to move students towards self-authorship during their undergraduate journey. Self-authorship can be defined as the ability to know oneself, to know what one knows, to

reflect upon it and to base judgements on it (Baxter-Magolda 2004). Self-authorship necessitates skills of critical analysis and evaluation, deciphering of ambiguity, development of mature working relationships, embracing and valuing of diversity and consideration of multiple perspectives (Moore et al., 2011). Essentially, students move towards self-authorship when they are able to balance an understanding of the contextual nature of their knowledge with intra-personally grounded goals, beliefs and values.

It has been said that undergraduate students are unlikely to develop self-authorship if HEIs do not offer sufficiently novel and constructively disruptive spaces, encounters and moments (Higgitt, 2014) which compel them to (re)consider and subsequently begin to fashion new conceptions of self and personally-referenced ways of knowing (Baxter Magolda, 2004). With reference to the many types of learning spaces outlined in Table 1, we must challenge students to become border crossers, moving them from the familiar pedagogic contexts of their undergraduate experience to situate them in unknown and hence challenging spaces. This can be achieved by their entry into a novel space, such as a virtual world, or by adopting an unfamiliar pedagogy in a familiar space, such as student-led fieldwork. We define such spaces as borderland, mindful that the negative tensions inherent in the political concept of borderland have led critical post-modernists in education to theorize radical transformations in pedagogy (Freire, 1987; Giroux, 1992; Shor, 1992; hooks, 1994). Borderland spaces in education can therefore be seen as 'contact zones' for creative possibility (Askins & Pain, 2011).

In borderland spaces the traditional power hierarchies of higher education may be scrutinized and destabilized, enabling students to draw more freely from their own experiences and to work in partnership with each other and with faculty, prompting the construction of new identities (Giroux, 1992). The division between teaching and learning becomes blurred as students adopt the role of tutor, whilst tutors act as facilitators and, in so doing, can learn a great deal from their students. Thus, borderland spaces are unprescribed and remain open to being shaped by the processes of learning experienced by their participants, rather than being constrained by pre-defined objectives laid down by the curriculum (Savin-Baden, 2008). Borderland spaces are permissive spaces, allowing genuine dialogue to take place and offering opportunities for co-inquiry and reflection between students and faculty (Lodge, 2005). Here, students can be empowered to participate in their learning so that they might actively shape both their learning experiences and those of succeeding cohorts.

Crossing into borderland spaces and attempting to challenge and disrupt the power relationships inherent in the teacher-student contradiction (Freire, 1970); the hierarchical positioning in which faculty adopt the role of experts and students receive knowledge passively, requires both students

and faculty to become accustomed to positions of liminality (Cook-Sather & Alter, 2011). To quote Turner (1974: 232), when entering a liminal space participants become 'ambiguous, neither here nor there, betwixt and between all fixed points of classification'. Students are caught between their recognition of faculty authority and opportunities for more autonomous inquiry, whereas faculty find themselves no longer the unquestioned experts, yet they still hold significant power over students. Borderland spaces are unfamiliar physical or metaphorical territories and their novelty and ambiguity can seem daunting. Moving into these spaces often leads to initial discomfort and uncertainty as expressed by both parties (Felten, 2011). In these physical and personal spaces disjunction may occur, resulting from a moment of aporia, conceptual puzzlement, or a cycle of reinforced 'stuckness' (Savin-Baden, 2008). Different responses to disjunction may result, ranging from denial of the problem, postponement of facing the issue, temporizing by indecision, or avoidance. Equally, there may be the realization and acknowledgment of troublesome knowledge, and a concomitant desire to challenge issues internally, with the aim of finding personal understanding. Thus, encountering disjunction in the borderlands can be disconcerting, yet persistence in these spaces can be affirming, leading to a number of positive outcomes. Perhaps the most important result for students can be a movement towards situating personal knowledge amongst alternative forms and a progression towards self-authorship through student-student and student-faculty partnership.

Case studies: engaging students in learning partnerships in borderland spaces

This section presents four case studies that explore the opportunities offered by, benefits of and challenges to engaging undergraduate students in learning partnerships in borderland spaces (Table 1). The precise methods of data collection are highlighted for each case study, but they all follow a qualitative approach with students completing open-ended written evaluations and taking part in focus groups or semi-structured interviews. The focus groups/interviews allowed students to interpret their experiences of learning partnership in different contexts. They adhered to a standard set of 10 questions, which prompted participants to reveal their feelings at the start and end of the case study learning experience, how the experience differed from others they had encountered on their degree programme, what they believed they had gained from the experience and why they had made such gains, and how they made use specifically of the learning space. Based in grounded theory, transcripts from the focus groups and interviews were coded manually based on interpretive reading of the text, allowing salient themes to emerge during analysis (Denzin & Lincoln, 2011).

Case study 1: International Student Environment Research Teams

Student Environment Research Teams (SERTs) have been developed at Bournemouth University, UK, as flexible, co-curricular opportunities for students to learn through co-creating research as a team in

partnership with faculty mentors. SERTs go beyond faculty-led fieldwork because students form true partnerships with academic staff, co-designing research from their different perspectives. The projects offer relevant research experiences and typically academic staff suggest an initial project idea, provide the wide academic context and offer ongoing mentoring. Students lead the practical development and management of all stages of the project. Over the lifespan of projects, students and faculty work together as equals in open discussions that explore and address challenges of achieving rigorous data collection and sound personal and team development. SERTS are open to students at all stages in their degree and are often comprised of students from different years and degree courses. The projects can be located anywhere in the world and can run for any length of time.

Each SERT examined in this case study enables students to explore a new learning space in a physical, cultural and social sense (Table 2). Physically, the SERTs were all located overseas in new and challenging field environments (high mountains and remote tropical forests). Culturally, each SERT had the potential to move team members into a new learning space by embedding the research team among people directly experiencing conflict between the needs of humans and other species in the local environment. Socially, the SERTs prompted team members to inhabit new learning spaces because team members took on leadership, as well as participant roles in, for example, project coordination, logistics, data collection and reporting of results. Each SERT was composed of a mix of males and females, but was culturally and socially homogeneous as all students had been educated in a Western system (predominantly in England), and almost all were aged below 30 years.

At the end of the SERT projects the students were invited to participate in a combination of survey methods to evaluate the effect of these new learning spaces on their experience, engagement and perceived gains in empowerment (related to subject-specific development and wider self-authorship). All students provided written evaluations of their experiences immediately at the end of their projects. In addition, 14 of the students completed an on-line survey in October 2014 and eight of these took part in a follow-up focus group.

Before they started the SERT projects, students reported feeling both trepidation and excitement at the thought of the forthcoming experience. They focused particularly on novelty in terms of the physically and culturally challenging spaces the projects were about to introduce them to, but also on how to work flexibly in partnership with others to achieve a common purpose, and how they might cope with the sometimes tedious nature of research work (Table 3). Students commented:

'I can't wait to go to Picos even though I am nervous as I have never visited mountains before and am not sure I am fit enough' (female 1, age > 30)

'It will be good to learn new fieldwork skills in such an exciting new place for me' (male 2, age <30)

These comments resonate strongly with a long-established and widely held view in outdoor adventure-based education that inhabiting novel, uncomfortable space in itself fosters new learning (Prouty et al., 2007, although see Brown, 2008).

When the students were asked how they had most benefited from their SERT experience, all reported strong shifts in viewpoint that reflected their occupying new cultural and social spaces, as well as new physical spaces (Table 3). The SERTs offering the greatest engagement with local collaborators and communities (Peru and Ecuador) resulted in stronger shifts in perspective. Students commented, for example:

'I was saddened by how much the forest is going even though everyone cares because caring is not enough. I am not angry with the local people as I was at the start' (female 4, age <30)

'I have learnt that it matters to me that it matters to wildlife conservation, not just our grades' (female 5, age <30)

These authentic spaces allowed students to view conservation issues from perspectives that were different to their initial conceptualisations. They began to understand issues from alternative viewpoints. This led to altered conceptions of identity and self-development:

'Being a scientist producing new understanding about the wonderful mountains, swapping roles in a team, and doing something that matters to the local people we met ... I didn't think I could let go and immerse myself in new perspectives but I did!' (female 6, age < 30)

'The Spanish scientists and National Park staff ... talked with us as equals ... I learnt so much about myself' (male 5, age < 30)

The students gained self-confidence by being immersed in such spaces, which they related to future employment opportunities:

'I was really pleased to learn that I can have confidence in myself, that I can lead people sometimes even though I am shy' (female 3, age <30)

'It was amazing to be part of a team finding out new things that really mattered to conservation ... as well as gaining really useful new survey skills for when I look for a job' (male 3, age < 30)

The results support the principle that co-creating new research knowledge through partnership fosters authentic scientific inquiry and intellectual development (Rahm et al., 2003). SERTs offer opportunities for moving students away from transmission learning towards self-empowered active learning and threshold concept inquiry (Meyer & Land, 2006) by enabling students to enter liminal states (Cook-Sather & Alter, 2011). The students clearly recognised the novelty of this space, consistently commenting about 'new' knowledge and skills and about what they were becoming – confident research scientists and indeed 'leaders' with an ability to view issues from a variety of perspectives. The results also suggest that the learning benefits of international fieldwork were greatest when students were embedded in new cultural learning spaces because these most enabled shifts in students' liminal positions and thus promoted threshold concept inquiry. It should be recognised, however, that students need managed introduction to such novel spaces, and this requires expenditure of time and effort by the faculty mentor. It can be concluded that enabling students to work in research teams, where they can inhabit social space as leaders as well as participants, appears to have powerful synergistic interactions with being placed in physically new and challenging environments, encouraging the development of self-authorship.

Case study 2: Student-led teaching on international fieldtrips

The *International Fieldwork* module is a final year undergraduate module run at Bath Spa University, UK, which is characterised by the co-production of the fieldtrip by student groups with academic staff. A student-led field teaching and learning strategy (Marvell *et al*., 2013) is adopted whereby students direct the learning of their peers by planning the logistics, and organising and delivering presentations in-the-field for part of the field course. Thus, the teacher-student contradiction (Freire, 1970) is directly challenged. The module is delivered through a series of lectures and workshops, culminating in a 5-day fieldtrip to Barcelona, Spain. Students work in groups, researching a topic in advance of the fieldtrip. The remit is to deliver an extended presentation with a learning activity in-the-field. Tutors act as facilitators offering advice and guidance, monitoring progress and, if necessary, intervening to resolve issues. Each group submits a project planning report and formative feedback is provided by tutors. The aims and learning outcomes of the co-produced fieldtrip include elements of immersion in borderland space such as novel logistical planning of the field curriculum and itinerary, applying

academic knowledge and understanding to an unfamiliar environment, and critically reflecting on the experiences of student-led teaching and learning.

A range of data were gathered from 5 years of fieldtrips, including formative (daily reflective entries in field notebooks) and summative (reflective essays) assessments, interviews with groups immediately after their field presentation, open-ended questionnaires at strategic points during the module, and module evaluations. Thematic analysis was undertaken, with the material coded to identify and analyse emerging themes (Marvell *et al*., 2013). The participants, averaging 25 persons per fieldtrip, were aged between 21 and 23 years, and were two-thirds female.

A key benefit emerging from the group field presentations was student empowerment. Students took direct ownership of the fieldtrip, thereby making the learning experiences more meaningful. This encouraged them to become 'learning partners', sharing the responsibility for learning with each other. Although group work can be fraught with issues, such as overcoming negative team dynamics, teamwork can bring together different interests and abilities to achieve more than the 'sum of their parts' to demonstrate higher-level transferable skills such as problem-solving and decision-making.

Students showed great respect and attentiveness to their peers due to mutual experience, often more so than when faculty presented information in the field:

'When participating in … [another group's] activities I found that I was able to empathise with them from being in their position myself' (R9, 2011, essay)

'I wanted to give the person speaking more attention than I usually would and made a conscious effort to answer questions' (R1, 2011, diary)

The students also recognised that their peers used less technical language, pitched at a more accessible level which was:

'somewhat easier to understand, in language that students could relate to more ... which allowed me to understand the concept to a greater extent' (R25, 2013, diary)

Students tended to question critically what their peers said rather than passively accepting material as they often did with tutors. Also evident was growing awareness of their own and others' abilities. The students began to critique good and bad practice and often sought to adapt their own delivery, which

was further reinforced by formal peer assessment. They remarked about being challenged beyond their 'comfort zone', but ultimately found the group presentation experience to be rewarding and often liberating:

'People at first seemed reluctant to join in with the activity but soon seemed to embrace it … it was heartening to see debates that had been read on paper come to life within the location and through what fellow students were saying' (R22, 2013, diary)

'For the first time I found myself becoming less of a passive student who just writes notes. I was suddenly asking questions and contributing to discussions; something which I usually find daunting' (R10, 2011, essay)

A change in power relations was recognised by some, with one student reflecting that:

'the subliminal hierarchial power relationship between lecturer and student, and in turn the way that we understand and experience the transfer of knowledge, was changed by the fact that the people giving me the knowledge were my peers' (R8, 2013, diary)

The immersion of students in their learning *in situ* influenced their affective domain leading to deeper learning. This not only involved a more nuanced sense of place, but heightened self-awareness of relational experiences that might facilitate psychological change (Cook, 2008):

'I feel I have gained an enhanced sense for place as I have appreciated and connected with all the components that make a place' (R12, 2011, diary)

'I realised lived experiences are more powerful in promoting learning in comparison with desk-based research' (R3, 2011, diary)

'When participating in a field activity I was interested in, I found myself becoming far more involved and emotionally attached' (R6, 2011, diary)

The students demonstrated adaptability in an unfamiliar environment, responding to unexpected situations (Della Dora, 2011). In particular, they acknowledged misplaced preconceptions and expressed sensitivity about 'invading' local space:

'Looking back … before the fieldtrip, I can see how close-minded I was. I had not anticipated how enlightening the fieldtrip would be' (R12, 2011, diary)

'I sensed hostility towards us and windows were shut as we walked past and took notes. I had to consider what my presence meant for local inhabitants' (R4, 2013, diary)

Finally, students acknowledged the transferable skills gained from the module that:

'provided me with excellent examples to demonstrate my abilities to prospective employers' (R5, 2011, diary)

'have given me more confidence to apply for jobs that require higher level skills' (R7, 2011, diary)

In terms of challenges that emerged for the students through learning partnership in this borderland space (persisting beyond the initial disjunction of superseding comfort zones), a key theme was their reticence to identify and discuss some complex academic terms and concepts. This might have been due to the technical nature of these concepts, or to the lack of confidence on the part of the students in applying them in the field. This shortfall led some students to question the academic standards and content of some of the field presentations:

'I felt that they had less authority and I ... found myself not as unreservedly willing to believe everything that was being said' (R14, 2011, essay)

On occasions, faculty found it necessary to intervene in presentation delivery, for instance to ensure that errors or prejudices were not perpetuated, or to slow delivery if it was over-paced. Such interventions had to be done tactfully and sensitively.

Co-production of learning through student-led teaching is particularly appropriate and effective on (international) fieldtrips because: student empowerment allows the application of high-level academic and transferable skills and may facilitate transformative learning; the unfamiliar setting immerses, challenges and enthuses students; and students start to critically evaluate their own contributions and experience and those of others, ultimately changing the relationship between students and faculty. The role of the tutor as facilitator is vital. Placing students outside their academic 'comfort zone', in spaces that can arouse their emotions, must be carefully managed and monitored. Goals must be

appropriate to the academic level and background of the students (not setting up students to fail), and scaffolding must be sensitive and appropriate.

Case study 3: Twitter as a digital learning space

Today's undergraduate students were 'born into a world woven from cabled, wired or wireless connectivity' (Bauman, 2010). As such, educators should take advantage of technological developments in order to open up new virtual learning spaces that support higher-order learning and self-authorship. Coupled with this, smart phones and their associated social media applications allow the co-creation and exchange of user-generated content. However, despite the fact that these tools are often used to supplement traditional teaching and learning methods, there is little empirical research into how they are being used to support pedagogy in geography higher education (Gikas & Grant, 2013). This section presents a case study of a pedagogical application of Twitter, critically examining the emergence of a digital space for partnership learning.

At Aberystwyth University in Wales, UK, second year human geography undergraduates are required to study the module *Research Design in Human Geography*. As part of a practical session on this module covering participant observation, students visit different locations on the university campus to observe their surroundings. They are asked to take traditional field notes and, in addition, are given the option to tweet their thoughts, feelings and photographs throughout the exercise. The results presented here are drawn from module evaluations across the 2013-14 academic cohort and a follow-on focus group of 10 students. Eighty percent of the focus group participants were male and all were aged below 21.

The innovative nature of the digital learning space was clearly recognised by the students:

'It was like a breath of fresh air in the sense that I'd never done anything like it before' (N – focus group)

This novel learning space initially brought a sense of liminality to the students (Cook-Sather & Alter, 2011). Asking them to use personal technology for academic purposes was met with some reservation:

'*I was a little concerned how it'd benefit me or my learning'* (N – focus group)

However, the students soon relaxed into the environment. They began to use Twitter in a way they felt comfortable with:

'[it] didn't actually feel like we were learning, but obviously we were, and that made it appealing to carry on' (N – focus group)

By the end of the exercise, the student views had evolved and they commented that Twitter was a *'vital tool in the feedback process'* (W – focus group), enabling them to gain a *'feeling of mutual engagement, not always felt in the lecture theatre'* (D – focus group).

The students recognized that Twitter engaged them in their learning to a greater extent than was possible using traditional transmissive teaching techniques:

'It was enjoyable and felt engaging, more so than just being sat in a lecture theatre. It felt more personal, whilst also being informative' (D – focus group)

The digital learning space therefore brought a personal touch to large-scale group teaching, motivating and engaging the students with learning material.

Throughout the exercise, the hashtag was monitored and tweets were replied to immediately using the instructor's academic Twitter account. Feedback encouraged the students to more deeply question their surroundings and to think about their positionality. Receiving feedback digitally brought the tutor and students close together, whilst they remained apart physically; the students were able to get immediate direction and adapt their activities *in situ*. Traditionally, feedback would have been postponed until the students returned to the classroom or the instructors had managed to circulate round all individuals in the field. At the end of the session, the class regrouped and their tweets were displayed on a white board using Tweetbeam software. The activity was discussed and the tweets were used to prompt student self-reflection and dialogue (Laurillard, 2002). This increased the students' confidence to share and debate their views.

It was not compulsory for the students to use Twitter during the exercise - they were able to carry out the task using traditional ethnographic methods. Twitter was used to supplement the traditional learning techniques and to promote deeper conceptual knowledge. Approximately half of the students on the module used Twitter, but the issues raised were discussed in class (and placed on the institutional VLE) so that all students could benefit from the technology.

The use of the hashtag had a legacy beyond the workshop. When preparing their assignments, the students tweeted questions to the instructor. Although these questions could have been asked face-to-face or by using email, using Twitter meant that the students could see each other's questions and could respond to each other enabling peer-to-peer learning. When one student, for example, tweeted 'does anyone have any tips for conducting ethnography', a variety of peer responses followed such as 'use photos/field sketches to illustrate your ideas' and 'apply what you see to existing work'. The students helped each other, building a sense of mutual support. This peer feedback was seen as being:

'hugely helpful, particularly in sourcing a wide range of appropriate reference material' (S – focus group)

The fact that these conversations were held in a 'public' forum meant that *'everyone was on a level playing field' (W – focus group)*, ensuring the students could work in partnership with each other and with academic staff in order to co-produce knowledge. No longer was a staff member standing at the front of a classroom answering questions. Rather, Twitter facilitated multiple conversations, led by the students, including student and faculty voices (Savin-Baden, 2008). Using Twitter in this way also made the students more willing to ask questions that they might not otherwise have asked. As one student commented:

'If it is only a small issue, I would think twice about writing a proper email, but if I sent a tweet I wouldn't even think about it, I could just send it' (J – focus group)

Such ease of communication can help break down the hierarchical relationship between faculty and students, leading to more meaningful interaction and increased levels of student satisfaction, as expressed in their end-of-module evaluations.

The productive disruption (Higgitt, 2014) created by using Twitter for human geography methods training had positive results in terms of student engagement and opportunities for partnership learning. Twitter use encouraged students to leave their close peer groups and to interact with people they had not necessarily interacted with before. The benefits of using Twitter as an educational tool outweighed the disadvantages:

'It undoubtedly had a beneficial effect on my overall module grade' (W – focus group)

'I genuinely feel that that the ability to tweet my lecturers has helped my studies in the past twelve months' (J – focus group)

There are, however, challenges that can arise from the use of Twitter and other social media in collaborative learning. Such technology can only be used in areas with good Wi-Fi/3G technology, only those students with appropriate technology can engage directly in activities, and there are issues with trust as identities blur and students assume the role of peer tutors exercising agency in their learning activities (Skinner 2007). Faculty must therefore work proactively to enable students to access and work with technology. Additionally, in order to promote self-learning and self-reliance amongst the students, faculty must scaffold the student learning experience throughout the duration of any activity, offering clear guidance to ensure collaboration and enhanced learning (Reed & Mitchell, 2001).

Case study 4: Peer Assisted Learning

Peer Assisted Learning (PAL) is an academic mentoring scheme that fosters cross-year support between students. PAL is supplemental to formal course teaching and usually takes place in co-curricular space. The PAL learning environment encourages active and collaborative learning through which students explore issues together in order to develop their understanding. The case study presented here is based at the University of the West of England, Bristol, UK which operates the largest student-remunerated PAL programme in the UK. The study offers an insight into the experiences of a very small proportion of participating students: Geography PAL leaders over the academic years 2012-13 and 2013-14. Fifteen of a total of 18 PAL Leaders took part in semi-structured interviews, a response rate of just over 80%. Two thirds of the respondents were male and the majority were below 21 years of age. Ten questions were put to the students focusing on what motivated them to become PAL leaders, their feelings at the start and end of their time as a PAL leader, what they gained from the experience and why they gained these attributes, and whether the learning space in which they undertook their sessions was important to student learning and to their role as a PAL leader.

In terms of motivation, although the students' reasons for becoming a PAL leader were based in developing presentation and communication skills, enhancing organisation and leadership skills, and building self-confidence, they clearly struggled with their entry into a borderland space where the role of tutor was novel to them. They moved beyond their 'comfort zone' (R5, R13, R14), articulating feelings of insecurity and vulnerability:

'I was nervous, mainly about my peers being sceptical about me being in a position to help them, being only one university year ahead, but also excited' R6

'I was very apprehensive. I probably did not feel that prepared to lead a group of my peers knowing you are slightly superior to them but you're not, you're on the same level ... but it's exciting as well' R15

Students expressed antithetical emotions of fear and excitement, as expected from entering a position of liminality in the borderland (Cook-Sather & Alter, 2011). They recognised that they were in a space of becoming, rendering them indeterminate in terms of power (Friere, 1970). For some students this indeterminacy was precisely what allowed them to draw on their personal knowledge and to convey it to others who did not yet know, or to facilitate group sharing to resolve issues:

'The people teaching and being taught are on similar levels of understanding and so can relate to each other. For example, a problem that some in the group may be having might be one that the PAL leader themselves experienced in first year and so can give the best advice on how to overcome the issue' R9

'The lack of hierarchy allowed for the students to answer each other's questions as much I answered theirs and also they were not worried about asking 'stupid' questions' R10

Initial apprehension faded for the students as they gained experience in this space and their confidence grew concomitantly. The students are not afraid to openly recognise their fallibility, which faculty are often too keen to erase from the teaching canvass. Yet, it is exactly this partial nature of knowledge and expertise that should be communicated to students in order to develop their critical consciousness – to openly question power-relations, knowledge creation and ways of thinking. The borderland space of PAL appears to encourage just such critical pedagogy (McLaren & Kincheloe, 2007), existing beyond the constraints of formal 'judgement' by academic staff (R10, R13, R14) where students can together interrogate their understanding, and lack of it, in a mutually supportive environment.

The students acknowledged a re-positioning of their role as they moved into a space discrete from being recipients of learning, taking on the responsibility of a tutor:

'It was a unique experience, the chance to experience a teaching role ... to be put into a position of responsibility' R6

'PAL allows you to become more than a student ... for those sessions you are a member of staff who has the chance to pass on information to an entire class of students ... you view academic work from a more responsible level' R1

Moving into the borderland space of PAL leadership complicated the identities of the students. They recognised that they assumed an altered identity in this space and when they emerged from it they were often more multi-dimensional learners. To a certain extent they matured overall as people. As one student noted:

'Through being a PAL leader I have grown more as a person ... I feel like I've found more of myself' R13

Working in this space was liberating for some students. One commented:

'Being a PAL leader allowed me the freedom to be creative ... you're like your own boss. You've got a set target to meet but you decide how to get there' R15

The students, however, also identified the perils of grappling with a new identity and with the associated responsibility in these liminal spaces. Respondents often mentioned issues of non-attendance from their students in PAL sessions and the importance of not letting this erode their confidence:

'That was the hardest thing, dealing with the feeling rejected ... I only had two weeks when very few students came but I felt heartbroken .... that was really, really challenging' R13

For PAL leaders, their journey into the borderland is clearly both cognitive and affective. If we are to encourage students into these spaces in order to progress them as learners, peer mentors and people, we have a responsibility to scaffold their experiences appropriately such that one foray into this challenging territory does not erode their confidence and set them back irrevocably on their journey towards self-authorship. Their time spent in this space must not be too turbulent, but must offer a safe place to experiment and grow.

The students clearly articulated application of the knowledge and skills gained from PAL leadership to other contexts – to their academic studies and reaching forward to employment and to life situations:

'*I now feel confident that ... I could apply presentation and facilitation skills in the right places at the right times'* R2

'I can dissociate myself from situations that are out of my control more so now than I could before ... and that's something I've only developed through having to deal with the retention of students so I've been able to implement that in other aspects of my life' R13

The students gained durable understanding and competences, which they recognise as transferable to other academic settings and to a variety of life situations. They have internalised their learning and used it to develop themselves, considering how to use it suitably in a range of contexts in their future professional lives.

The student responses demonstrate facets of emerging self-authorship. The PAL leaders seem compelled to examine themselves and what they know and to consider how to express themselves and to respond appropriately to a multitude of others. They are thus self-evaluating and exercising judgements that they consider to be appropriate to context and audience. Students noted, for example:

'Being a PAL Leader has improved my ability to judge different people's learner types, allowing me to adapt my teaching style to accommodate ... PAL has also helped me within my own studies ... looking at different types of information and being able to see it from different points of view' (R1)

'I learnt how to change my style depending on the students that came. Something that will work with one student won't work for another ... I learnt that everyone is different so you have to be flexible as a PAL leader'' R13

Students entering the borderland develop agency as learners, assuming responsibility, practicing their ability to lead flexibly according to context and gaining confidence in themselves as a result.

Borderland spaces and their potential to promote self-authorship through partnership

In this paper, we have highlighted the potential of immersing undergraduate geography students in curricular and co-curricular borderland spaces to help them co-construct their learning experiences, guided by academic colleagues (Werder & Otis, 2010). We wish to encourage students and faculty to become collaborators and learners, engaging in reciprocal dialogue that is based more on the quality and integrity of contributed ideas from all and less on the binary status as 'student' or 'faculty'. In such

spaces of becoming, students are encouraged to think beyond usual social structures to take a new look at the world and to co-invent novel solutions to problems. They can become creatively involved in changing relations between 'faculty' and 'student', in shaping their learning experiences and in critically constructing their own perspectives and ways of knowing.

Borderland spaces exist in higher education in many of the existing spaces of learning if we engage students as partners in their teaching and learning in an appropriate manner (Table 1). Learning space is not automatically a borderland space – it has to be used as such ontologically, epistemologically and practically. In this paper, we have identified three spaces that have been used as borderland spaces for undergraduate geography teaching and learning: the field, online digital space and peer mentoring space. These spaces have been used to challenge student understanding, identities and perspectives, by engaging students in partnership with one another and with faculty.

The case studies presented here reveal common benefits to engaging students in learning partnership in borderland spaces. The novelty of entering the unfamiliar and challenging borderland results in antithetical feelings for students as they first enter the space. They typically experience anxiety mixed with excitement as they move beyond their comfort zones. However, as they become accustomed to the space and embrace its liminality (Cook-Sather & Alter, 2011), they gain confidence in their new roles and begin to embrace new responsibilities. They demonstrate enthusiasm for and increased confidence in accepting agency in learning. Entering the borderland and persisting in it can be transformatory, as students acquire new facets to their identity. They mature into multi-dimensional beings as they experience teaching and learning from a novel vantage point. The students demonstrate adaptability to their surroundings, becoming self-aware and engaging meaningfully in their learning. They become receptive to alternative viewpoints, and exercise critical thinking (McLaren & Kincheloe, 2007) and reflective judgement (King & Kitchener, 1994). They can even cross conceptual thresholds (Meyer & Land, 2006), opening up previously inaccessible and irreversible ways of thinking, knowing and doing. Visiting the borderland at a number of points during their undergraduate journey can allow students to engage further with, and progress beyond, their disciplinary identities, to express their complex and intersecting personalities, and to trust their judgement in order to make informed decisions. Such facets of self-authorship (Baxter Magolda, 2004) are recognised by the students as preparing them for the dynamic, uncertain and insecure world they will encounter beyond education (Spronken-Smith, 2013).

Attendant challenges have also been identified to effective partnership in borderland spaces in terms of the anxiety and insecurity students and staff can feel as they enter the borderland and take on new

roles, and as faculty and students adopt a true partnership ethos; trusting student peers with the responsibility to facilitate and enhance teaching and learning. Partnership between students and faculty (and between student peers) sometimes involves letting go of familiar ways of learning, requiring trust in a process that is inherently unpredictable (Healey et al., 2014). Thus, borderland spaces can be messy and unsafe. They are additionally personal and emotional spaces. As Robert Kegan (1994: 42) says, 'people grow best where they continuously experience an ingenious blend of challenge and support'. As a consequence, there must be appropriate and contextually-specific guidance available for students (and staff) to ensure the successful navigation of more than a confident minority into and out of these challenging borderland spaces (Moore-Cherry et al., in press).

The question remains as to how to develop our teaching, learning and assessment practices to encourage faculty and students to enter borderland spaces effectively across their learning journeys and to explicitly articulate their resulting self-development. Equally, we must consider how to ensure managers support the movement of students and faculty into and out of such spaces through their strategies and policies. The latter is compounded by the perceived risk of students returning negative evaluations if they are administered during the initial unsettling experiences that occur within borderland spaces, when cognitive dissonance precedes sense-making and confidence-building. As Bass (2012: 32) comments 'the learning we are coming to value most is not always where we are putting our greatest interest and effort ... we should be attentive and ambitious in figuring out how we want to cultivate and evaluate learning in [an] expansive environment'. We have much more to do in terms of thinking, planning and acting if we are to encourage effective and inclusive partnership in teaching and learning in the potentially transformatory spaces of the borderland.

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Table 1: The diversity of learning spaces inhabited by geographers and their uses traditionally and as borderland spaces of partnership

Learning spaces inhabited by geographers	Traditional use	Use as borderland space
Euclidean space		
• University lecture theatres	Transmissive faculty presentations	Flipped classroom - student-led break-out discussion/critique; use of collaborative technology (e.g. clickers, smart devices)
• University seminar rooms/classrooms	Faculty-led seminars and workshops	Student-led, faculty-facilitated collaborative debate and critique; group role play and other experiential learning
• University laboratories – physical geography and computer labs	Faculty demonstrate equipment/techniques; students undertake experiments	Student-directed/informed experiments and small group exploration
• University library and/or subject resources room	Private, quiet, independent study	Collaborative, dialogic meaning-making
• The field/outdoors/campus grounds **[Case studies 1 and 2]**	Faculty-led Cook's tours and student small group inquiries following stipulated field techniques	Students, guided by faculty, generate new knowledge via research (using relevant technology); student field presentations/interpretations
• Research-related boats and planes	M level, PhD level and faculty data collection/monitoring/ inquiry	Faculty-guided undergraduate participation, inquiry and critique
• Cars, trains and buses – spaces of transit	Informal conversations, reading, thinking	Individual and small-group sharing and reflection; group learning via smart devices
• Campus informal communal spaces – auditoria, corridors, refectories, SU bars, student bedrooms/dormitories	Personal reading and watching audio and video podcasts; informal conversations	'Think stops' for peer sharing/group learning face-to-face and via smart devices
• Exhibition and conference spaces	Transmissive presentation of material	Faculty-student-employer multi-way dialogic interaction and critical response/peer regulation
• Walls of teaching rooms and corridors	Passive display of material	Interactive addition/amendments/critique
• 'Collaboratories' - pods for break-out sessions	Faculty-initiated group inquiries	Student-led problem-solving via critical dialogue
• Staff offices	Formal tutorials; faculty-led	Formative discussions between

	feedback	faculty and students
• Peer mentoring spaces (PAL) **[Case study 4]**	Revision of faculty-delivered material by PAL leader	Student-led participative inquiry and shared meaning- and identity-making
• Off-campus informal learning spaces (learning commons): coffee bars and cafes, student accommodation, libraries, museums, zoos, shopping malls	Personal reading and watching audio and video podcasts; informal conversations	'Think stops' for peer sharing; small group exploration and discovery
Non-Euclidean space • Virtual Learning Environments: synchronous (chatrooms, virtual worlds) or asynchronous (discussion boards, blogs, wikis, emails)	Faculty communicating with individual students and student groups; resource repositories	Peer production of knowledge, resources and meaning; peer questioning and answering in class/field/immersive environment; peer assessment
• Online undergraduate research journals	Student reading and authorship	Student video reflections on research, reflective blogs
• Social media (e.g. Twitter, Facebook, Instagram) **[Case study 3]**	Faculty communicating with students and student groups	Two way iterative developmental dialogue between faculty-students and students-students
• Personal (head) space	Thinking within comfort zone	Thinking 'outside of the box'

Data collated from participants of a 2014 INLT workshop (n=30) and Brown & Lippincott 2003; Oblinger, 2005; Temple & Fillippakou, 2007; Savin-Baden, 2008; Brooks et al., 2012

Table 2: Student Environment Research Teams (SERTS) examined in case study 1

Learning space, duration of project and team size
• Developing rapid survey techniques for Ecuadorian Forests (Ecuador) • Four weeks duration (summer 2012) • Eight students
• The effect of ecotourism on wildlife using walking trails in the Peruvian Amazon (Peru) • Four weeks duration (summer 2013) • Eight students
• The effect of introduced deer in the Picos de Europa National Park, Spain (Picos) • Two weeks duration (summer 2014) • Eleven students
• The impact of habitat change for plant-pollinator interactions in the Pyrenees (Pyrenees) • Two weeks duration (summer 2012) • Thirteen students

Table 3: Replies given by students when invited to list challenges and benefits associated with their SERT experience

Reply theme	Pyrenees	Picos	Peru	Ecuador	Mean score
Challenges					
Dealing with difficult physical conditions	100	100	100	100	100
Dealing with new experiences, travel, foods, etc.	100	91	88	77	89
Dealing with negative team dynamics	38	45	38	31	38
Being flexible in making and adjusting plans	62	55	25	8	37
Boredom with repetition/precision of research	38	27	25	15	27
Unable to value different cultural perspectives	46	27	13	8	23
Not having 'down time' away from it all	15	18	0	0	8
Mean score per SERT	57	52	41	34	
Benefits					
New wildlife observation experiences	100	100	100	100	100
Learning new subject-specific skills	100	100	100	100	100
Seeing a new landscape/environment	100	100	100	100	100
Seeing new cultures	62	82	88	100	83
Confidence from sharing skills and team learning	69	64	88	92	78
Hearing perspectives from other cultural positions	15	36	75	85	53
Gaining mind-shifting insights/perspective change	15	27	75	85	51
Mean score per SERT	66	73	89	95	

Note: Students replied anonymously in an open question format and their responses were themed. Scores per theme represent the percentage of students surveyed on each field trip who gave at least one reply relating to that theme. The top 7 themes only are shown.