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Geographers and the scholarship of teaching and learning

Introduction

Geographers in higher education have made significant contributions to the scholarship of teaching and learning, framing and systematically investigating their practice and sharing their experiences in order to enhance higher education teaching and learning (Hutchings & Shulman, 1999). The interest demonstrated by geographers in undertaking higher education scholarship is evidenced through international geography learning and teaching journals. The first discipline-specific journal to deal with pedagogic research in geography was the *Journal of Geography*. Dating back to 1902, this is the journal of the National Council for Geographic Education in the United States. Similarly, *Geographical Education* is the professional journal of the Australian Geography Teachers' Association, established in 1988 for school and university teachers, and all others interested in the discipline. *International Research in Geographical and Environmental Education* provides research-based articles about learning and teaching within the context of broader geographical and environmental education and was first published in 1992. Added to this group, *Journal of Geography in Higher Education* (JGHE) ranks as the second oldest publication. It began as a speculative venture by a group of British geographers who believed that educational issues in geography in higher education were not receiving the exposure they deserved in the mainstream journal literature (Shepherd, 1997). To rectify this situation, JGHE was first published in spring 1977 from the former Oxford Polytechnic in the UK under the insightful guidance of David Pepper and Alan Jenkins, with support from an editorial board.

In the first edition of JGHE the editorial board (1977: 3) noted that the journal was: '*founded on the conviction that the importance of teaching has been undervalued in geographical higher education*'. The aim of the journal was to provide an international forum where geographers with diverse specialisms could share their teaching interests and experiences such that disciplinary practice might be improved. A foundational principle for the journal was to establish geography higher education as a research field of equivalent quality and relevance to that in all other areas of the discipline. It was argued that, since almost all university geography researchers also teach, using geographical research skills in pedagogic contexts to enhance the quality of teaching was an important activity (Haigh et al., 2015).

After 40 years in print for JGHE, and with a growing number of geographers shaping higher education pedagogy within and beyond the discipline, we draw attention to the attributes and values which equip geographers to engage in the scholarship of teaching and learning. We begin the paper by summarising key characteristics of geographers in higher education, synthesized from academic literature. We support our summary with comments from past editors of JGHE offered in answer to the question: *What*

is it about the geographer's identity or modes and styles of research that helps you to undertake productive enquiry into teaching and learning? These comments were collected in December 2016 at the Royal Geographical Society (with IBG) in London as part of the day-long JGHE Celebration of Learning and Teaching in HE Geography Conference, to recognise 40 years since the journal was launched. Current and former editors addressed our question as part of a panel discussion, and their responses can be found in Table 1. In this paper, we identify how geographers in higher education have undertaken productive enquiry into teaching and learning using three case study papers from the journal as exemplars. We summarise the key elements of these papers and inter-weave the voices of the authors as accompanying narratives explaining the intent and approach to their research, and examining how it is shaped by their identities as geographers in higher education. We progress to consider the issues in higher education that geographers are likely to embrace in the future.

The nature of geographers and their relationship with the scholarship of teaching and learning

Geographers in higher education possess disciplinary capabilities which help them to apply their research skills beyond thematic areas of the discipline, to frame and seek answers to pedagogic questions. We define these as a reflexive mind-set, interdisciplinary thinking, breadth of ontological, epistemological and conceptual understanding, quantitative and qualitative approaches to research, appreciation of the situated nature of knowledge production, and inherent interest in learning spaces.

As with many disciplinary academics, geographers adopt a *reflexive mind-set*, open to critically examining the disciplinary histories that have played out within dynamic contexts and which have resulted in a plurality of knowledge production and academic practice (Sidaway & Johnston, 2007; Castree, 2011; Erickson, 2012; Dyer et al., 2016). Through their reflexivity, geographers have brought questions concerning higher education scholarship into mainstream discussions in the discipline, particularly in relation to the signature pedagogies of fieldwork (Cook et al., 2006; Herrick, 2010; Fuller, 2012) and spatial information handling (Kulhavy & Stock, 1996; Lloyd et al., 2002; Lloyd & Bunch, 2003). As such, pedagogic research, including components of self-inquiry, peer review and application to practice, is undertaken as a sub-set of disciplinary research by many geographers, in order to enhance their pedagogy and advance the discipline.

Geographers persistently *breach their disciplinary borders*. As such, geography is not a single academic community with strong internal coherence, but is more of a conglomerate of separate communities working with and writing for a range of audiences (Johnston, 2003). This is partly because many academic geographers come from different disciplinary backgrounds and are content to embrace 'disciplinary diffidence' (Smith, 2000: 389). Additionally, in some locations the restructuring of

geography departments in higher education institutions (in the UK, USA, South Africa, Australia and elsewhere) is compelling some geographers to work outside of the discipline (Wainwright et al., 2014; Hall *et al.*, 2015). This disciplinary weakening has encouraged higher education geographers to undertake interdisciplinary research believing it to have greater social relevance compared with pure geographical research (Hall, 2014). Geographers research applied problems pertaining to topics as diverse as climate change, poverty, migration, biodiversity loss and natural hazards. They often work with other physical and social scientists, to integrate different types of understanding and to ensure the application of multiple perspectives and modes of enquiry to these broad investigative areas (Simon & Graybill, 2010). As a consequence, geographers are comfortable collaborating with colleagues from outside the discipline in the scholarship of teaching and learning, including those in educational development. Geography provides 'necessary' knowledge (Bonnett, 2012), which can be used to help us understand and resolve some of society's pressing problems, and this parallels the scholarship of teaching and learning, where the creation of new knowledge has relevant application to a range of individuals over contemporary and future time-scales.

Geographers possess a *breadth of ontological understanding* (Clifford et al., 2016). Whilst physical geographers traditionally tend to adhere to the empiricist tradition, aiming to comprehend an objective, measured reality, and human geographers traditionally tend to adopt the realist tradition, aiming to interrogate the subjective meanings, values and emotions inherent in knowledge production, most geographers through their training have an appreciation of both sides of the discipline. This leads on to a *broad epistemological understanding* about how knowledge is acquired, transmitted, altered and integrated into conceptual systems. Geographers have worked within positivism, critical realism, phenomenology and post-phenomenology, social constructionism, feminism, structuralism and post-structuralism, postmodernism and complexity theory (Couper, 2015). As a result, it is possible to view higher education research through a number of different epistemological lenses, opening up pedagogic knowledge to the possibilities of evolution, diversity and challenge.

Akin to other subject specialists, geographers refer to a *range of concepts* to interpret the world. The generic concepts that define the discipline are space and place, scale and connection, proximity and distance, and relational thinking (Jackson, 2006). The distinction between space as an objective container versus place as humanised and invested with meaning allows geographers to consider learning environments through both positivist and interpretivist lenses (Hill et al., 2016). Geographers consider scale hierarchies and the linkages between processes and scale. They think synoptically about the 'big picture', taking the complex interaction of phenomena as a starting point.

Geographers are familiar with both *quantitative and qualitative research approaches* (Castree et al., 2005). The quantitative approach tends to embrace extensive research designs, finding variables for concepts, measuring them, and using statistical techniques and mathematical modelling to interrogate large 'representative' data sets. The qualitative approach, by contrast, tends to employ intensive research designs, interpreting the subjective experience of individuals via methods such as ethnography, (auto)biography, oral history, participant observation, semi-structured interviews, focus groups, and visual and documentary analyses (Clifford et al., 2016). Some geography researchers purposefully adopt a mixed methods approach, combining qualitative and quantitative approaches within individual projects with the aim of deepening and triangulating their data. Geographical methods are derived - they are not disciplinary creations, but draw selectively from other subjects such as sociology, psychology, biology, etc. The scholarship of teaching and learning undertaken by geographers will certainly showcase multiple methods of enquiry depending on the problem under consideration, validated by the epistemic context of the research question.

Similar to many social science researchers, geographers are sensitive to the *situated nature of knowledge production* (Rose, 1997), recognising the impossibility of undertaking and communicating social research that is 'value free'. They embrace relational thinking, considering constructions of 'self' and 'other', and this provides an ideal framework for interrogating actors, agency and fields of knowledge in higher education scholarship. Geographers consider the positionality of the researcher and the context of the research participants (Gold, 2002). As such, geographers take account of their own position in their research and they expect different perceptions of the world and different experiences of situations and places, as we might expect these to arise from students and faculty in higher education. Geographers understand that students have multiple and intersecting identities, with different aspects coming to the fore at different times, and they acknowledge this in their educational enquiry, avoiding simplified, singular and stable typologies (Felten et al., 2013). As a result, they take particular account of context and social interactions, acknowledging the lived and emergent experiences of learning and teaching. This places them in a strong position to deal with the complexities of higher education scholarship (Berliner, 2002).

Geographers in higher education are particularly keen to *investigate the affordances of learning spaces*. Research published in JGHE is contextualised in the classroom, field, laboratory, informal spaces and virtual learning environments (Hill et al., 2016). Mirroring many learning developers, geographers recognise that space is not 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. As such, geographers undertaking educational scholarship have examined the use of learning spaces not just in

a conventional sense, but re-framed as borderland spaces of possibility, prompting creative and holistic interrogations of learning environments and their interplay with learner identity and agency (e.g. Walkington 2012; Phillips, 2015; Hill et al., 2016; Pawson, 2016).

Comparing the above characteristics drawn from the literature with those identified by past and present JGHE editors (see Table 1) we can see that all six editors comment on the porous boundaries of the discipline and the willingness of geographers to reach outward to connect with the literature, concepts, methods and approaches of other subject areas, making specific reference to higher education. David Unwin notes that geographers develop extensive social communities by looking beyond their own departments so these external connections are intra- as well as interdisciplinary in nature. Both David Unwin and Martin Haigh highlight the extensive breadth of geography, which means that geographers can find themselves pushed beyond their comfort zone as teachers, delivering content outside their areas of expertise and working across a diversity of learning environments. They are compelled, as a consequence, to reflect upon effective pedagogies for a wide range of contexts. Notably, due to the social nature of field and laboratory work, geographers are comfortable working and learning with their students. As such, they are potentially more normalised, when compared with other academics, to partnership working (Kent et al., 1997; Marvell et al., 2013; Moore-Cherry et al., 2016). This links with the point made by Alan Jenkins that he persistently thinks of himself as a learner, and this rings true for many geographers. Viewing ourselves as learners we are mindful of our own processes of meta-cognition and we wish to make these processes tacit to our students. In short, we teach through as well as about geography.

The scholarship of teaching and learning in geography: case studies

This section examines three papers purposely selected from JGHE in order to highlight the distinctive (though not exhaustive) nature and range of higher education scholarship that has been undertaken by geographers. Integrated within them are many of the characteristics of geographers noted above, such as reviewing and utilising concepts across disciplines, methodological breadth, attention to diversity and positionality in teaching and learning environments, and a holistic consideration of disciplinary content and pedagogy. Numerous themes could have been examined, including creative learning spaces (Walkington, 2012; Hill et al., 2016), spatial cognition using geographical information systems (Jo et al., 2016; Symposium edition 41, 3), global citizenship (Miller, 2013; Haigh, 2016), ethics in teaching and learning (Boyd et al., 2008; Healey & Ribchester 2016), transition to and from higher education (Tate & Swords, 2013; Piróg, 2014), community/work based learning (Bednarz et al., 2008), employability (Rooney et al., 2006; Arrowsmith et al., 2011), internationalisation (Shepherd et al., 2000; Ray & Solem, 2009), and assessment and feedback (Rodway-Dyer et al., 2011; Worth, 2014). The papers we have

selected enquire into fieldwork, teaching-research links and inclusive student-faculty partnership. Summaries of the papers are accompanied by author narratives explaining the derivation of and approaches to their pedagogic enquiry.

Case Study 1: fieldwork pedagogies

We begin our case studies with a signature pedagogy of the discipline (Shulman, 2005). Fieldwork has always been central to the enterprise of geography (Bracken & Mawdsley, 2004) and it has featured prominently in the pages of JGHE during its first 40 years. In this experiential and discursive learning environment the content of the discipline and pedagogy are richly entwined. Undergraduate geography field courses have evolved over time pedagogically, progressing from detached and passive observation on the part of students to their active participation in enquiry-based learning approaches, often directly related to the research process (Pawson & Teather, 2002; Marvell et al., 2013; Fuller et al., 2014; Phillips, 2015).

In our first case study, Ian Fuller and colleagues (2000) remind us that whilst physical geography has, by tradition, been a field-oriented science, its value at the start of the twentieth century was largely assumed and under-evaluated. As such, this group set out to test the effectiveness of student learning in the context of fieldwork using two contrasting approaches.

* Box 1 starts here *

Case study 1: Student Learning Experiences in Physical Geography Fieldwork (Fuller et al., 2000)

Fuller and colleagues present an empirical assessment of the effectiveness of physical geography fieldwork as a learning strategy. They design their research to evaluate two distinctive teaching approaches: descriptive-explanation versus analytical-prediction. After reviewing geography-specific and generic pedagogic literature, the authors hypothesize that adoption of analytical-prediction should be more effective for student learning than descriptive-explanation because it requires 'hands-on' investigation to solve problems.

To test their hypothesis the authors divide a class of first-year students undertaking fluvial fieldwork into small groups, adopting stratified sampling according to field experience and knowledge of physical geography. Groups are taught in the field following one of the two teaching approaches. In the descriptive-explanatory approach the linkages between fluvial variables are continually highlighted and explained by staff in an instructive fashion as students undertake their fieldwork. By contrast, the analytical-predictive approach requires students to carry out semi-independent investigation,

discovering for themselves how the variables are linked having been given initial direction. The degree to which the two approaches facilitate learning is evaluated using inferential statistics to compare marks achieved in the fieldwork assignment and through qualitative interpretation of questionnaire feedback.

The results demonstrate that, in the short term, traditional descriptive-explanation is significantly more conducive to student learning than analytical-prediction. Student perceptions of the fieldwork are extremely positive and are unaffected by the learning approach adopted. The authors conclude that the latest trends in research approaches are not automatically transferable to undergraduate student teaching and learning.

* Box 1 ends here *

In his author commentary Ian Fuller notes that *'geography as a discipline is marked by its integration of human and physical processes, which perhaps makes it appealing to undertake research that considers aspects of human behaviour (learning) integrated with the physical domain (landscapes)'*. Teaching field techniques, approaches and concepts that he uses in his disciplinary research has been at the core of Fuller's pedagogic work. The case study paper originated in the perception of the student cohort at the time that physical geography was harder than human geography, and so Fuller wanted to examine if the way the subject was delivered in the field might alleviate this. He describes his approach to pedagogic research in this paper as scientific enquiry, making observations of student performance under two different approaches to field teaching and learning, and drawing conclusions based on analysis of observed results. He says *'this scientific method relates to my disciplinary identity and approach as a physical geographer, even more so since the subject was directly related to my own area of research interest'*. Acknowledging that innovative approaches in research and teaching are applicable to learning only with context-specific planning and support, Fuller notes that he has become *'(more) convinced of the importance of fieldwork for teaching and learning, using a student enquiry approach, along with staff guidance and input'*. He says this active but informed approach breaks down some of the barriers and perceptions of difficulty that might otherwise arise among students. Furthermore, he believes this approach has reinvigorated traditionally stale 'Cook's Tour' fieldwork, making it more accessible, enjoyable and enriching to the students' overall learning experience.

Case Study 2: Linking teaching and research

As Shepherd and Healey (1994: 3) noted in the early days of JGHE *'The search for a balance in what we do as academics has always been at the forefront of this journal's concerns'*. Fundamental to seeking balance has been examining research-led pedagogy in order to ascertain if it benefits student learning. As such, our second case study paper by Mick Healey (2005a) examines the research-teaching nexus. It

won the JGHE Biennial Award for Promoting Excellence in Teaching and Learning in 2007 as a result of the transformative potential of its ideas for practitioners (Bullard, 2008).

* Box 2 starts here *

Case Study 2: Linking Research and Teaching to Benefit Student Learning (Healey, 2005a)

In this paper, Healey explores the contested nature of the research-teaching nexus in different national and institutional contexts and interprets what this means for geographers. His intent is to provide a set of concepts for understanding the links between research and teaching, which can be used in designing curricula to increase the benefits to undergraduate students from research taking place in their departments. Healey notes that geography provides an intriguing discipline through which to examine research-teaching linkages because of its interdisciplinarity. He also acknowledges that geography renders the situation complex as there are many ways to conceptualise and construct links between research and teaching in the discipline.

In terms of methods, Healey undertakes a systematic review of literature, using items that are both generic and specific to the discipline. From almost 100 articles, reports and books, he deconstructs the broad nature of research, and teaching and learning, in order to examine what their complexities mean for enhancing inter-linkages to benefit student learning in geography.

From his review, Healey develops a set of curriculum design principles to enhance research-teaching linkages. He concludes that undergraduate students are likely to gain most benefit from research in terms of depth of learning when they are involved actively, particularly through various forms of inquiry-based learning and he supports this with selected international case studies. He concedes that the design of research-based curricula provides challenges to staff across the sector, not least because it encourages new forms of staff-student partnership.

* Box 2 ends here *

Mick Healey's case study paper derives from a Learning and Teaching Support Network (now Higher Education Academy) funded project on 'Linking teaching and research in the disciplines'. In his author commentary Healey notes that he persistently recognises the importance of placing his work in the broader context of higher education. He says '*I saw my geography education research as a case study drawing on, illustrating, and sometimes amending, broader principles about student learning in general*'. He explains that the paper originated as a reflection on a range of inter-related topics which he had been exploring for five or so years, including the scholarship of teaching and learning, active and inquiry-

based learning, and the importance of disciplinary-based approaches. He notes his main aim '*was to communicate effectively to colleagues and to give them a framework to which they could relate their own experiences*'. He goes on to say the reach of the paper has been far wider than he anticipated, being cited in non-geography publications three to four times as frequently as in geography outlets (around 350 times on going to print). Healey built on this research to propose a model of curriculum design and the research-teaching nexus (Healey, 2005b). This famous quadrant diagram, distinguishing between research-led, research-oriented, research-based and research-tutored teaching, has been reproduced and referenced more than any of his other work. Healey now views the research-teaching nexus as part of the broader topic of engaging students as partners in higher education (Healey et al., 2014).

Case study 3: Student-faculty partnership

Partnership is currently the focus of much work within higher education. Around the world, educators 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). Since its inception, JGHE has been focussed on the development of a more student-centred geographical education. Through the numerous Symposia and the Directions section of the journal we can even witness postgraduate and undergraduate students publishing as co-authors with faculty (e.g. Spronken-Smith et al., 2008; Moore et al., 2011; Hill et al., 2016; West et al., 2017). JGHE has moved beyond capturing student voice as evidence for educational claims to privileging student voice as author, incorporating those who are often less audible in the Academy in the production and dissemination of pedagogic knowledge.

Our third case study highlights the work of Niamh Moore-Cherry and colleagues (2016), a mixed team of faculty and students who call for inclusive partnership in higher education, which they define as a non-selective staff-student relationship. They argue that inclusive partnership is an ideal that all institutions should strive towards, even though there are institutional, personal and logistical challenges that must be met to adopt inclusive partnership working across the curriculum.

* Box 3 starts here *

Case study 3: Inclusive Partnership Enhancing Student Engagement (Moore-Cherry et al., 2016)

This paper is co-authored by members of the International Network for the Learning and Teaching of Geography in Higher Education (INLT). The team reviews a wide base of higher education literature within and beyond the discipline to make a reasoned argument for inclusive partnership in geography learning, teaching and assessment.

The paper begins by defining inclusive partnership as a relationship that facilitates better and more meaningful engagement of all students with staff, constructed within the framework of the formal curriculum. The authors view inclusive partnership as engendering engagement, confidence and belonging in students through the principles of shared vision, empowerment, authenticity and challenge.

The authors suggest that inclusive partnership is possible throughout the geography curriculum and across a diversity of learning contexts, but they also highlight intrinsic challenges. Three case studies are presented to illustrate the diverse nature of inclusive partnerships in geography, in terms of stage in the curriculum, the nature of the learning space, the identity of the partners and the actual partnership activities. The case studies progress from an extended first-year collaborative induction project that builds geographical identity, through second-year tutorials that enhance student autonomy and mutual respect, to a skills module on a masters' programme that cultivates belonging to a community of geographic enquiry.

The paper concludes by offering some guiding principles for inclusive partnership working in geography. These include engaging in significant forward-planning in order to develop facilitative institutional structures and ethos, introducing inclusive partnership early as a way of working and learning, and considering the adoption of less rigid interpretations of institutional and regulatory constraints on curriculum design, delivery and assessment.

* Box 3 ends here *

In her author commentary Niamh Moore-Cherry notes that given her disciplinary research interests in urban governance, she sees institutions and institutional frameworks as critical in shaping behaviour and outcomes. This translates to her pedagogic research which, while often classroom or student focused, is always cognisant of the wider contexts within which higher education operates. She notes *'agency is crucial and is as critical to my pedagogic as my urban research, leading me to think of learning as partnership, constantly in the process of becoming, and mediated through, but not constrained by, institutional contexts'*.

Talking about the origins of the paper in an INLT writing retreat, Moore-Cherry says *'once we began to share our interests and motivations for participating, the focus on inclusive partnership emerged. The group all subscribed to the importance of partnership but a common theme was that it was a pity that its benefits were confined to selected students'*. Drawing on previous work in the area of partnership, she set out with her team to redefine how partnership working could potentially be less exclusive. She

stresses, however, that the paper is not simply aspirational. In order to ensure that the ideas make a difference, it was necessary to draw out how inclusive partnership could work in practice through both detailed case studies and tables giving short critiqued examples of activities. This consciously places the key protagonists - staff and students - at the heart of the paper. Moore-Cherry concludes that geography is a discipline where there is a strong tradition of the scholarship of teaching and learning. As such '*we should embrace what we do and highlight to students the value of our pedagogical approaches in developing not just subject competence but also a much wider range of graduate attributes*'.

Looking to the future

Given the characteristics of geographers delineated and exemplified above, and considered in the context of a dynamic higher education environment, what areas of pedagogic inquiry will be relevant for us to pursue in the future? An important issue that relates fundamentally to the identity of a geographer is the development of graduate capabilities in our students, helping them to secure successful careers (Hill & Walkington, 2016; Spronken-Smith et al., 2016; Walkington et al., 2017). To encourage student reflection about their emerging identities as (geography) professionals, research might be undertaken into curriculum development, particularly exploring the covert assumptions of the hidden curriculum (Cotton et al., 2013), making tacit the null curriculum (Flinders et al., 1986), and interrogating the expanding, flexible and informal spaces of geographical learning. Such informal learning spaces (aided by technological developments) extend into the spaces in which students live and learn at their own discretion (Cook & Hemming, 2010). This raises questions about how such learning is captured and understood by our students, integrated with their curricular experiences, and articulated to prospective employers.

Geographers might continue to engage beyond their subject boundaries, applying their diverse epistemologies, methodologies and perspectives within interdisciplinary contexts. Interdisciplinary inquiry may be the answer to addressing complex educational questions, although tensions can arise as theoretical frameworks, perspectives and skills must be integrated from different disciplines over the lifespan of projects. Referring to many of the personal characteristics we highlighted earlier, Sharp (2015: 223) concludes 'It is possible that geographers are well positioned to absorb this pressure'. As such, it would be useful to introduce our undergraduate and postgraduate students to interdisciplinarity at an early stage of their learning to ensure that its meaning and consequences are understood. Indeed, the practical facilitation of interdisciplinarity in the undergraduate classroom was considered recently in the pages of JGHE (Sharp, 2015). The author argues that course convenors should pay greater attention to how learners engage and negotiate with peers and perspectives from other disciplines. Drawing upon theories of communication, the paper demonstrates the significance of developing

'communicative competence' as a pathway to successful interdisciplinary learning as it casts critical attention upon the abilities and cultural sensitivities that are the hallmarks of interdisciplinary collaboration - from negotiating meaning to critical disciplinary awareness.

The development of digital technologies, especially in relation to wireless connectivity and mobile devices, is facilitating the movement of geography learning and teaching beyond formal classroom space, allowing e-learning to take place anywhere, anytime (Lynch et al., 2008). Mobile devices have great potential to enhance undergraduate geography teaching, with recent studies focusing on the adoption of such devices by students in field locations (France et al., 2013; Welsh et al., 2015). This research has shown benefits in the form of enhanced data sharing and processing, post-fieldwork reflection and, more recently, development of graduate attributes (France et al., 2016; Fuller & France, 2016). Nevertheless, barriers to the use of mobile technology include cost and reliability/durability of devices, staff competence, and concern from some students that technology can distract them from their learning unless applied strategically and pedagogically (France et al., 2015). Similarly, increasing use of the internet can be positive for students, connecting them to diverse resources (including their peers), but attendant with it are pedagogic concerns. For example, spatial inequalities exist with respect to accessing broadband networks (Higgitt, 2008). A further concern is the possibility of rising internet plagiarism by students, as well as worries about students' lack of knowledge concerning the skills necessary to critically evaluate the veracity and reliability of information retrieved online (Gardner, 2003). Encouraging equitable access to technology and enhancing digital literacy might be key areas of pedagogic research for geographers going forward.

Geographers in higher education should not withdraw from their initiative to move learners from the periphery to the centre of the learning experience. Educating 'Generation K' students, who value authenticity, connection and co-creation, begs a number of questions that require further theoretical and empirical examination, and these were ably outlined by Pauline Kneale in her keynote lecture delivered at the JGHE Celebration Conference. These questions relate to the development of skills required for students and faculty to work effectively in partnership, how a multiplicity of contested/marginalised voices can be made audible, what physical and virtual spaces are needed for learners to participate in meaningful social interactions, and what kinds of organisational culture and structures are needed to enable student engagement to thrive.

We may need to research in greater depth the concept of 'pedagogic frailty' (Kinchin et al., 2016; Kinchin & Francis, 2017). This is a situation in which faculty find the cumulative pressures of academia inhibiting their capacity to change practice in response to an evolving teaching environment, leading them to

maintain conservative pedagogic approaches. Pedagogic frailty can curtail creative teaching practice and the scholarship of teaching and learning. The outward-looking and critically reflective nature of geographers should stand us in good stead to reflect upon and challenge this frailty. This is essential if we are to challenge our students with inclusive, engaging, innovative and relevant teaching, learning and assessment in an era of reductionist metrics and external accountability.

There may be further avenues of research residing in improving the professional development of early and mid-career geography faculty, strengthening the leadership abilities of departmental heads and engaging academic geographers in community outreach. But, whichever issues are taken up by geographers in the scholarship of teaching and learning, we must consider, as Jenkins (2013: 3) notes, that:

'JGHE needs to be grounded firmly in the worlds of practice and policy and address the key issues facing geography staff and in particular students'.

Conclusions

Applying the same characteristics, values and standards to our pedagogic research as we do to our thematic specialisms in the discipline, we can open up new modes of self-reflection and new forms of critical pedagogic geography. We can enhance our theoretical and/or conceptual understanding of teaching and learning *processes* in higher education, of teacher and learner *experiences*, of the *contexts* in which teaching and learning take place, and the *outcomes* of our scholarly-informed practice. We can expand our appreciation about who we are as geographers and what the discipline can become. Teaching geography defines us just as much as researching geography, so the scholarship of teaching and learning is necessary for the evolution of our discipline. Indeed, outstanding scholarship in teaching and learning is increasingly recognised through professional accreditation, such as the UK Professional Standards Framework for teaching & supporting learning in higher education, feeding into promotion and tenure criteria.

JGHE supports the building of educational research capacity within the geographical community. From the outset, the editorial board determined that the journal would be *'written largely by geographers for geographers'* (Jenkins, 1997: 11). The board adopted the view that geographers would be likely to adapt their teaching in response to articles written by other geographers, tailored to the needs and circumstances of their own discipline. Today, the effectiveness of JGHE stems in part from tapping into the disciplinary identity of faculty, producing a geography in higher education community of practice (Jenkins, 2013). Yet, as the boundaries of geography are permeable, we can learn from and contribute

to other disciplines through our educational research. Referring back to Alan's words, it is our innate desire as geographers in higher education to both continue and share our own learning, garnering as much impact and reach as possible, that is perhaps the most powerful means of promoting and advancing the scholarship of teaching and learning within and beyond the discipline.

And so, we conclude this paper by stressing how lucky we are as a disciplinary community to have JGHE as a continuing space of dialogue and debate at the international level. The journal helps to bring new geographers into educational inquiry and it sustains the geographic community, acting as a repository of evidence-based practice. As such, here's to the next forty enlightening years of the *Journal of Geography in Higher Education*.

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Table 1. Comments from JGHE editors in response to the question “What is it about the geographer’s identity or modes and styles of research that helps you to undertake productive enquiry into teaching and learning?”

Editor	Comment
Alan Jenkins	I think of myself as a learner ... Geography moves you across disciplines and you have to work with people from, for example, climatology and art or history. So, to an extent, I think one of the advantages of geography is that it isn't a tight discipline and you are willing to move out into other disciplines and I hope into higher education ... It's that business of being open to ideas
David Unwin	It's something to do with band width in that we have so many opportunities to set up learning situations for students and that's intrinsic in my mind to the nature of the discipline, in particular the combination of lab work, field work etc. In my experience, we are much closer to the students than many other disciplines and as a discipline ... my impression is we're much more coherent than many. There isn't a university in this country I couldn't name you somebody I know quite well ... That's a very, very real difference in the nature of our discipline
Ifan Shepherd	There were a sequence of contributions in JGHE by John Gold who reviewed the latest literature in education and wrote critical, synthetic reviews on a regular basis ... and that opened our eyes to things that were mainstream and therefore we should be considering them for issues that we were trying to mainstream ... Another point is that geography is recognised as a synthetic boundary-crossing discipline
Mick Healey	In geography, the emphasis is on synthesis ... bringing together ideas from many different sources. When we're writing a paper and we're writing about assessment or fieldwork or research-based learning we will look at the literature written by other people and much of that literature will be outside geography and that is a strength of JGHE - we will put it into that broader context. Therefore we open ourselves up to the methods of doing higher education research and find it easier to move into higher education conferences and continue in that direction
Martin Haigh	One of the things that happens to you as a geographer in a discipline with such a huge span is that very frequently you are operating outside your comfort zone – teaching beyond your specialism. To do this you're put in a position where you have to absorb some knowledge and have to communicate unfamiliar things in different ways and I think the diversity of geography is one of the reasons why we have had to focus on pedagogic matters more than many other disciplines
Bob Bednarz	I became acquainted with a project ... trying to identify research directions in geography education and, perhaps unlike what you would see in other disciplines, the team that was assembled was intentionally comprised of people not only in geography but in cognitive science and so on. So geographers have a willingness to look outside geography ... geography is open to ideas from outside