The visualities of digital story mapping: teaching the 'messiness' of qualitative methods through story mapping technologies

Abstract

Increasing attention is being given to how educators might incorporate digital story-mapping into undergraduate geography teaching and assessment, with a particular focus evident on the quantitative and GIS-based values of these technologies. However, we argue that the visual elements of digital story-mapping technologies also raise questions about how students understand, organise and represent the experiences of doing qualitative research. Utilising the concept of 'digital visuality' (Fors, 2015), we argue that the broader sociopolitical and cultural contexts that inform qualitative methods teaching (particularly epistemological debates about narrating embodied, 'messy' research encounters) shape how students represent qualitative research in a visual form. Using empirical vignettes derived from a ArcGIS Story Map assessment at a UK tertiary institution, this paper frames story-mapping technologies as a more-than-visual form of research representation. We argue that the decisions faced by students about how to present ('can I show ethics in a picture?'), order ('I can't show that video here'), and reflect on methodological rigour ('Is it still valid data if I type-up my journal?'), stimulates important learning opportunities. Subsequently, the article is not just intended to 'make-a-case' for such technology, but also to raise important questions about the digital visualities of qualitative research representation for geographical education.

Keywords: story-maps, qualitative methods, teaching, digital visualities

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Introduction

Alongside discussions that have drawn attention to the 'animating' (Dwyer & Davies, 2010) and 'enlivening' (Vannini, 2015) capacities of qualitative research, social scientific debate has emerged that seeks to question how educators might more effectively teach the values and possibilities of qualitative methodologies (Crooks, Castleden & Tromp-van Meerveld, 2010; Delyser, 2008). Human geographers, in particular, have been active in not only documenting innovative forms of qualitative methodological experimentation, but also in examining how these experimentations can inform our pedagogical practice (Dwyer and Davies, 2010). Notably, much of this discussion (both within literature and our own experiences as educators) is marked by a sense of the difficulties faced in communicating the values, practices and possibilities of qualitative research. Existing accounts point towards a range of difficulties faced by educators, including: student perceptions that qualitative methods are 'easy' and are therefore not a valued part of an undergraduate degree (Tashakkori & Teddlie, 2003); student suspicion of the ways in which qualitative data is received and valued outside of academia (Lowe, 1992); as well as difficulties faced by educators in challenging quantitative/positivist paradigms of rigour, validity and representation (DeLyser & Sui, 2014). In response to these challenges a series of helpful accounts have sought to improve pedagogical practice in this area (for example, DeLyser, 2008; Crooks, Castleden & Tromp-van Meerveld, 2010; Battista & Manaugh, 2018). However, educators are often still faced with a question of how to effectively communicate the notion that qualitative methods isn't simply about reporting on something that is 'there', let alone in an engaging or stimulating way (Law, 2014).

Recently, growing attention has been given to how educators might incorporate digital technologies into undergraduate geography teaching and assessment. In a higher education environment where the possibilities of GIS technologies abound, scholars are charting how geographical learning might be informed by 'digital wisdom' (Prensky, 2012). Complementing these narratives are an array of accounts that demonstrate the possibilities of digital technologies in supporting methodological teaching (see, for example, Strachan & Mitchell, 2014; Boschmann & Cubbon, 2014; Kwan, 2002). Much of this has focused on illustrating the potential opportunities and pitfalls of using digital technologies for assessment (Sinton & Lund, 2007). Other accounts have sought to provide practical advice and guidance to students on how to use digital technologies effectively in the higher education setting (France & Wakefield, 2011). Accompanying the turn towards 'the digital', it seems, is a sense that current students

are generally "…digitally literate, highly Internet familiar, highly social, crave interactivity in image-rich environments" (Wakefield & France, 2010, p. 63), resulting in students whose 'digital native' characteristics (Prensky, 2012) ostensibly demand and enable new pedagogical approaches (DiBiase, 2015).

Yet, reflections on the role of digital technologies and methodological teaching have largely been restricted to the quantitative domain. Reflecting on the introduction of GIS based assessment tasks, Sinton & Lund (2007) argue that various forms of digital learning empower students to question how social problems, trends and patterns can best be represented numerically and graphically. Similarly, Hallisey (2005) argues that digital based learning and assessment requires students to critically explore how quantitative data produces different kinds of realities, thus simultaneously conveying important pedagogical lessons about methodological rigour and data representation. In addition to representing research through GIS technologies, attention has also been paid to the role of digital 'storytelling' in enabling methodological reflection and learning. Digital stories (referring to a collection of still images, audio and video) have been argued to lend themselves well to the representation of quantitative fieldwork activities, largely as it enables students to more simply visually demonstrate the development, implementation and outcome of their research methods. Reflecting on assessment using these forms of technology – employing ArcGIS Story Map technologies (the context of this paper) – Mansell (2018) contends that emerging digital technologies are 'revolutionising' the ways in which undergraduate students gather, manage and present quantitative data. Such technologies, he argues, are not only shaping how students encounter methods learning, but also how it is being assessed.

Whilst these emerging discussions are aptly pointing towards how digital technologies are enabling pedagogical engagement with quantitative methods, we argue that the value of these technologies for qualitative methods teaching is less explored. For example, Fors (2015) argues that existing pedagogical literature furthers the idea that students only engage with digital technologies on a superficial level, not accounting for the experiential and non-representational aspects of learning that digital technologies stimulate. In response, this paper critically explores the ways in which the digital interfaces of these technologies shape how qualitative research methods are learned, practiced and represented by undergraduate geography students. It seeks to open out conversations about some of the multiple visualities at play as students use digital technology to articulate, order and present their engagements with qualitative methods. We argue that digital representation of the research process stimulates different kinds of

experiential reflection about the visual and more-than-visual components of qualitative methods. In particular, we contend that the kinds of 'mundane frictions' (Fors, 2015) encountered by students in their engagements with digital story-telling technologies – the ways in which the body is engaged in imagining and remembering, the material decisions about how to display and order research material, the negotiating on how to visualise and represent experiences and abstract ideas – stimulates a more complex set of practices than visual representations of the research process. In short, the intention is in part on a methodological level (to problematise digital visuality as a way of presenting research), but also to discuss how we might better generate discussion about the politics of representation and authenticity in qualitative research education.

The discussion in this paper emerges from the use of ArcGIS Story Maps in first-year undergraduate assessment at the University of Exeter (UK). Story Maps is a form of digital story-telling technology that is becoming increasingly used as a part of undergraduate geography programmes globally (see Strachan and Mitchell, 2014). The technology combines digitized, dynamic maps, images and videos with other story elements to help the creator effectively convey a largely linear narrative. Story Maps couple the benefits of a GIS/visual representation with an easy-to-use, non-technical interface that can be accessible to both educators and students (Battersby & Remington, 2013). Importantly, these stories are not necessarily reliant on GIS-based illustrations of data to display information, but rather offer users the opportunity to build narratives around selected pieces of media.[1]

Geography students at Exeter were specifically asked to design a Story Map based on their use of qualitative methods on an urban field trip in their first year. For these students, the task and associated assessment represented their first engagement with qualitative methods at tertiary level. All of those involved were undertaking degrees in Human Geography specifically – although students are given the opportunity to develop qualitative and quanitative research methods skills, alongside teachings about associated epistemologies. Importantly, in this instance. rather than presenting the output of their work, students (in groups of 4-5) were asked to write a methods textbook chapter (aimed at secondary school students) and present it through their Story Map. Students were required to use material gathered from their research as case studies for their chosen qualitative method. The Story Maps needed to include reflections on

[1] Examples of these Story Maps can be found on the ArcGIS website: https://storymaps-classic.arcgis.com/en/gallery/#s=0

the historical uses of their method in geography, its appropriateness for different avenues of research, potential ethical concerns that needed to be acknowledged, how the material gathered might be rigorously analysed, and any practical tips that a student might need to effectively employ the method. Throughout the assessment, groups were encouraged to reflect on how they could utilise the digital possibilities of the Arc-GIS technology (for example use of photographs, videos, links to Flickr, YouTube and other online outlets, and digital maps) in the context of a 'conventional' academic genre – the methods textbook (with its keywords, bullet point recommendations, case study boxes, and clear, delineated sections). Consequently, students were faced with decisions about how to best employ and represent their field-trip experiences in order to critically examine qualitative research methodologies.

Subsequently, this paper is not designed to be an evaluation of the assessment exercise or of the possibilities of the ArcGIS Story Map technologies itself. Rather, the paper uses three vignettes from encounters with students during the assessment process to open out discussion about the 'more-than-visual' playing out as students create and curate narratives about their engagement with qualitative methods. Contrary to work that the proclaims the value of such technologies in representing (largely quantitative) data, we explore how an exclusive focus on 'the visual' as tactile representation is challenged by using Story Maps to teach qualitative methods. From there, the paper moves to explore contemporary discussions about digital visuality – including the ways in which visualities play a role in producing geographic knowledge – before moving to present vignettes that focus specifically on: (i) how Story Maps open out discussion about the visual politics of authenticity; (ii) how digital technologies open out discussions about visualisation and representation of research ethics and; (iii) a politics of ordering about representations of empirical complexity. The paper concludes with some brief reflections on how more-than-visual thinking might contribute to qualitative research pedagogy.

Introducing Digital Visuality

In the context of qualitative methodologies, Dowling *et al*. (2017: 5) contend that 'the visual sense is the default position … with data needing to be 'seen' in order to be believed, and 'landscapes' still requiring 'reading''. Indeed, human geographers have shown a keen interest in visual research methods, particularly with the use of photography, drawing and video (Dowling *et al.* 2017). To guide these debates, Rose (2001) provides a useful distinction between the concepts of 'vision' and 'visuality'. Vision 'is what the human eye is

physiologically capable of seeing', whilst visuality is concerned with the ways in which vision is constructed, the notion that vision as a perceptual field is shaped by symbolic, communicative practices which are socially and culturally mediated (Rose, 2001: 6). Thus, visualities shape the sociocultural and political contexts within which visual representations are situated: they can (re)produce social differences and inequalities (e.g. gendered or racialized tropes), and are implicated in the assumptions and experiences an audience brings to an image's reception.

When referring to this visuality as *digital*, digital visuality denotes a 'wide range of cultural forms and practices in which digital and visual media converge' (Uimonen (2015: 2). The particular form of digital and visual representation in this study is the Arc-GIS Story Map. Latham and McCormack (2007) argue that, whilst digital technologies can reaffirm the dominance of visual representations in geographical research, they also create possibilities for a more distributed, disparate sense of engagement with fieldwork that non-digital technologies find more difficult to create. Digital technologies can capture large amounts of data of varying types (audiovisual, aural, textual, etc) and provide the opportunity for near real-time review, recapture and editing of visual representations, for example photographs on smartphones (Latham and McCormack, 2007). For example, students can take a larger number of photographs with a digital camera without a need to worry about this being the 'final edition' which enters the assignment; digital images can also act as an *aide memoire* during fieldwork, eliciting memories or ideas (Latham and McCormack, 2007). Because digital technologies can capture many different types of media, they can also help to foster individual artistic variation and creative choice in the digital narratives constructed (Castleden et al. 2013).

Additionally, online digital formats enable flexible integration of multimedia, are multidimensional (enabling multiple thematic elements to be involved in a much larger space, without the limitations of paper sheets), and are multilinear (with the ability to develop links which follow alternative spatial and temporal directions) (Latham and McCormack, 2007). Hjorth and Pink (2014) and Fors (2015) contend that digital visuality is embodied and multisensory. In an analysis of how teenagers in Australia and Sweden use social media platforms, Fors (2015) highlights how visual experiences of social media (e.g. viewing photographs) are always interwoven with other senses, e.g. 'touch' and 'sound': clicking on a computer mouse, swiping between photos and online pages, rubbing or cleaning the screen, listening to sounds from a call or online video ('mundane frictions'). Fors (2015) situates her argument alongside the broader turn towards 'more-than-representational' thinking. As

McCormack (2003) writes, non-representational approaches challenge the notion that experiencing spatial processes in the world is necessarily dependent on cognition and discursive representation: pre-cognitive, affective practices can also provide a productive means to study social processes.

Based on our experiences of teaching qualitative methods to Exeter students, we argue that a digital visuality informs' students geographical knowledge about qualitative research methods in three distinct respects. Firstly, we examine debates about the *ontological* and *tactile* authenticity of representing complex fieldwork experiences (visual representations of the 'real' fieldwork experience of using qualitative methods, and uncertainties about *how* to represent these experiences). Secondly, we argue that the complexities of qualitative research ethics in human geography – including the *contestation* characteristic of ethical encounters – act as a sociocultural context through which students make decisions about visual representations of ethical dilemmas in the field. Finally, we contend that the changing context of the academic textbook in a digital learning environment, including a tension between the *linear* conventions of the methods textbook genre and the *multilinear* possibilities of an Arc-GIS Story Map, create a contested *politics of ordering* for the digital methods textbook chapter. In each of these cases, a particular visuality is constituted through the norms, values and practices of qualitative methods research and this informs the visual representations that human geography undergraduates engage with in their fieldtrip assessment.

In this paper, we are concerned with how messy complexities of using qualitative research methods are represented visually using a digital format (Arc-GIS Story Maps). In this sense, we are not necessarily concerned with the 'factual accuracy' or the 'truth' of the visual representations in and of themselves (do they represent urban realities in Exeter, for example?), but in the *work* that digital visual representations do in portraying qualitative research methods as messy and complex. Pedagogically, this carries implications for student understanding and experiences of qualitative research: it could help to foster an understanding of the incomplete, difficult and negotiated realities of qualitative methods in practice. Examining the specific digital visuality of this assessment could also help to open up a pedagogical discussion of how broader sociopolitical contexts in geographical education are filtered into student assessment outputs. This is not to suggest that students are not aware of these broader contexts (e.g. of a changing textbook market), nor that we as teachers do not play an important role in communicating this context. Instead, we argue that analysing digital visual representations provides another means to examine how these contexts are communicated and learned in an

academic context: how does the Story Map 'filter' and 'represent' broader debates in academic geography.

Furthermore, in making an argument about the *digital* visuality of qualitative research methods, we do not assume that visuality highlighted in this paper is exclusively digital. Whilst digital technologies do offer particular functionality for visual representation (as described above), it does not follow that alternative approaches, for example foldable maps or role-playing narratives, cannot capture the complexity of qualitative research. We use the term *digital visuality* to explore how specific forms of digital representation and practices – in this case curation of an Arc-GIS Story Map – are socially and culturally constructed (Rose, 2003). If visuality is about 'how we see, how we are able, allowed, or made to see' (Foster, 1988: ix), we contend that digital visuality is about the sociocultural and political practices which govern how the knowledge emerging from qualitative research is constructed digitally and visually. Specifically, digital visuality constitutes the points at which broader sociopolitical, economic and cultural contexts about the role of research methods in geographical education (e.g. debates about research ethics in academic research and debates about the 'textbook genre' in an increasingly digital higher education sector) are filtered through modes of visual representation (Arc-GIS Story Maps). In the following sections, we elaborate on this 'filtering' process with three empirical vignettes. The first explores a politics of authenticity in the Story Maps as a visual representation, the second examines how the more-than-representationalcontexts of research ethics are negotiated in the Story Map, and the third interrogates how students *order* their Story Map in light of the conventions of academic textbooks.

Vignette One: Encountering and Negotiating a Politics of Authenticity

In the first workshop, a student asked about the correct ways of presenting data from the ethnographic diary they created on the fieldtrip. Noting that many of their entries were in note form – often with unfinished sentences, rudimentary language and no sense of a linear/ongoing narrative – the student felt a certain sense of unease about transcribing their diary and using excerpts in their Story Map. They, and others in the group wanted to provide further details about what they had written a month earlier – which, in their minds, would improve the quality of their data. When I joined them they were in the midst of a discussion about whether 'too much time had passed' to make changes in a 'proper' way.

Interestingly, the students felt more comfortable taking a picture of their diary and uploading that to their Story Map. They commented that this felt more like presenting data from the field. Members of the group said that this process could show the 'rawness' of their work, and that the photograph would help them to portray the difficulty of using ethnography as a research method. They expressed the belief that the incompleteness and messiness of their data couldn't be aptly illustrated through written text.

One member of the group mentioned that visually showing the incompleteness might illustrate the complexity of the method, whereas transcribing incomplete sentences might insinuate that they had carried out the method poorly. Others in the group expressed that transcribing their experiences somehow detracted from the authenticity of the experience. One commented that 'surely it can't count as proper data if we have to write it out again.'

In this instance, students discuss the decision-making associated with how to best represent their experiences of the research process. Students were keenly aware of the normative forms of qualitative research – where messy and complex encounters were still, in their eyes, published in a way that prioritised logical, ordered and articulate accounts of the empirical world. Decisions about how to present and represent ethnographic research were made in respect to overlapping, but discordant and conflicting, ambitions for authenticity and comprehensibility. Resultantly, this vignette, and also echoed in other conversations with students, draws attention to how the use of Story Maps opens up spaces to encounter and discuss the politics of authenticity associated with qualitative methods research. These included questions about what consists of authentic, valid or rigorous research, the ways in which ethnographic data is handled, categorised and presented, and the degree to which this material should be 'manipulated' in order to construct empirical narratives. Therefore, the multiple visualities stimulated by the Story Map task in this vignette sit at the intersection of decisions about how to represent research encounters and attempts to remain faithful to the perceived truth of these encounters. Importantly, we argue that the use of Story Maps in this instance points towards pedagogical engagements with an unravelling politics of authenticity playing out in two ways.

The first is about the kinds of fidelities that were being enacted through the students' choice of visual representation (photographs vs written text) to the perceived 'actual', 'real' field experiences. At first glance, the student's decision to represent their journals visually reflected a desire to produce a kind of scientific-realist ethnography, perhaps a homage to some notion

of objective truth in the research process. It spoke to a broader suspicion of the manipulability of written text and the unease of students in accepting transcribed ethnography as a valid form of research data. In this respect, the task opened up lengthy discussion on the epistemologies of qualitative research and deconstructing the fetishism of quantitative science. Yet, the decisions by students in this instance also speak to processes of representation and engagement. As Butler (2007) notes, students tend to find that descriptions written by ethnographers about encounters and somebody else's experiences do not convey nearly as well when text is supplemented by other forms of media. In a similar vein, Barbash and Taylor (1997: 74–75) contend that visual images are quintessentially phenomenological mediums, and "…may have a different orientation to social life than monographs. [Visual media] has a unique capacity to evoke human experience, what it feels like to actually be-in-the-world." Key to decision-making here for students was a fidelity to the notion that photographs of their ethnography 'in-situ' enabled the reader to then too become witnesses to the knowledge production process in a way that 'description of description' did not. Curating a Story Map, in this instance, involved the engagement of multiple bodies imagining and remembering the research encounters, and asking questions about how viewers might more effectively experience these engagements. Visual representations, here, enabled students to relive certain encounters and more effectively (to them) explain invisible and embodied feelings and content. Referring to the videoing of ethnography, Sarah Pink draws a similar conclusion, arguing that 'visual' representations of personal reflections "…can appear [a] more visible, comprehensible activity to informants…link[ing] more closely with their own experience' (2007: 245).

A second is about a fidelity to the stylised tropes and expectations of how qualitative narrative is crafted and represented. On one hand, as discussed above, this was a concern about how the management of qualitative data appeared to challenge notions of valid and objective research – students subsequently recognised that qualitative research they had been introduced to must have required forms of 'brushing' and crafting to exist in its current form. In addition to the vignette example, students during the task expressed questions and concerns about the kinds of positionalities, subjectivities and shifting perceptions that might be built into research/knowledge as their ethnographic diaries were transcribed and situated within broader narratives. One put it bluntly by saying that, in hindsight, they disagreed with their reflections about a particular neighbourhood. On the other, it was an apprehension with their ability to tell a coherent story using qualitative material – or, as one student put it in an email about their project, *"my diary doesn't put things well because I'm new at this, but now I can think of better*

ways of putting it. But is it cheating if I adapt what's in it, even if my only intention is to make it clearer?" Such concerns with quality and validity suggest that the visual representation of their ethnographic diaries – whilst seemingly invoking a sense of 'truthfulness' about their research – also raised hesitations about the rawness and incompleteness of their data. This was in line with their expectation that 'proper' qualitative research sounded more formal, almost poetic. For the purposes of the task at hand (producing a textbook chapter), presenting their empirical experiences visually enabled students to identify and communicate that some kind of process between collection and presentation existed – raising discussion (and decision-making) about how these practices might challenge normative assumptions of knowledge production. Creating a Story Map, in this instance, was not only a visual endeavour that enabled representation of research, but also one that required students to acknowledge and reflect on the realities of how qualitative narrative is imagined in relation to the empirical realities.

Subsequently, the presenting of qualitative research through Story Maps stimulated different kinds of reflexive practice that opened up encounters with, and an acknowledgement of, a politics of authenticity. Of note here, Seale (1999) framed presentations of qualitative research as having multiple claims to authenticity running through them – although these are argued to be all loosely formed around a kind of ontological authenticity (where decisions are made in order to preserve the sophistication of the research context/narrative). The use of Story Maps, in this instance, not only reflected a broader concern about ontological authenticity in that students developed an awareness of the subjectivities and positionalities that are imbued within the transcription and analysis process, but also a kind of *tactile authenticity* where students undertook embodied negotiations about how to best represent their encounters. This is not to simply suggest such mapping technology provides unrivalled opportunities for more effective narrations of empirical material. Rather, the discomfort and cautiousness of compiling raw and unfinished 'data' invited and invoked questioning about the 'truthfulness' of memory and practices that might constitute appropriate analysis and representation.

Vignette Two: Representing 'Ethical Encounters'

A discussion started with a group of four students about the expectations of the assessment. One student enquired whether they were expected to visually represent everything, as they couldn't agree if you could appropriately visualise 'ethics' in the Story Map chapter. Discussion was initially formed around the idea that ethics doesn't just 'happen' in the research encounter, but that different forms of consideration have to run through the entire

research process. This could include, they mused, both ethical dilemmas in choosing and utilising the methods in the field, as well as understanding if a researcher was practicing the needed duty of care. As these ideas were introduced, the students raised a concern with how they could aptly show this on a Story Map (which had a wordcount limit):

One member of the group argued that that a filmed research encounter could be used be used to illustrate ethical practice, showing up-close, 'real life' examples of ethical dilemmas in the field. Another argued that the film demonstrated a limited representation of ethics in research, and a longer written description and account were necessary to note the ethical dilemmas in their research experiences. This student noted that they somehow wanted to represent the idea that there's a difference between writing about what ethical research should look like, and embodying the notion of an 'ethical researcher' in the field. She later stated that 'it's impossible to know what being ethical looks like…you can't determine if you've offended or not cared for someone'.

In vignette 2, students reflect on the difficulties of how to 'represent' research ethics in the field. At the heart of these reflections is a concern that the messy, complex realities of research ethics are difficult to 'picture' or 'capture' in the form of an online textbook chapter (an ArcGIS Story Map). The students discuss visualisation as a means to render research ethics more *tangible*: to encapsulate the 'real', materialized and embodied social *practices* in which the ambiguities of research ethics are played out (Lähdesmäki, 2016). The digital visuality of qualitative research ethics thus suggests a relation between the complex, entangled contexts that govern research ethics and the dilemmas that this raises for which kinds of visual representation can represent these realities. The digital visuality for the reflections in this vignette sits at the intersection of complex ethical realities (the politics of academic research ethics and messiness of ethics in field contexts) and the possibilities for representing these contexts visually. To unpack this observation, we argue that this digital visuality could relate to the topics raised in vignette 2 in three distinct ways.

Firstly, it highlights that research ethics are *contested.* As the students reflect, there is disagreement within the group about how to appropriately visualise research ethics. Ethical questions in qualitative research are fundamentally grounded in contestation about what are the 'appropriate' or 'correct' practices in different situations. This belies an important epistemological point about research ethics: a contradiction between prescribed ethical codes

institutionalised in university procedures, and the messy, complex realities of ethical practices in the field (Hay, 2010). Ethics are conventionally taught as part of research methods and design courses, with a set of important principles grounding ethical research practice (for example informed consent, confidentiality and respect towards research participants, and beneficence ('doing no harm' in your research)). Similarly, whilst in the field – a trip to Bristol – with our students, we discussed common ethical concerns that arise from using qualitative methods (for instance the importance of privacy, and difficulties of individual informed consent for observation in public environments). However, in their debate about how to reflect on these questions in their Story Map (and represent them visually), the students discuss the messiness of research ethics in reality. Whilst there are important basic principles, ethics are not reducible to formalised, codified prescriptions: in the field ethics are *relationally* constituted, situated in the diverse networks of social relationships within which research practices are grounded (Cloke, 2002). In a sense, then, the first question that attempting to visualise research ethics raises is whether a visual representation can ever demonstrate a fidelity to these contested, messy realities. Can a Story Map, with its dynamic range of mechanisms to represent its content, portray 'research ethics' in the field?

As group members discuss, one suggested solution is to film an example of a research encounter that raises an ethical dilemma and integrate this into the Story Map. In this case, producing a real life 'example' is a way to render complex research ethics more tangible for the viewer. Indeed, as Rusca (2018: 2-3) argues, videography – capturing moving images with video recording – could be classified as a 'multisensory ethnographic method'. Videos can capture nuances that are overlooked in texts, e.g. body posture, tone, sounds, interactions, and embodied movements in the specific geographical and cultural contexts that the film portrays (Rusca, 2018). In this sense, in agreement with Fors' (2015) concept of digital visuality, the digital visuality enabled by a videographic representation on a Story Map would be fundamentally *multisensory* and *embodied*. Visualising ethical dilemmas through the prism of an 'encounter' or 'situation' suggests a conception of ethics that is more attuned to the contested, complex realities of qualitative research. Drawing on non-representational theory, this possibility moves away from a fixed view of research ethics as a list of principles or a prescribed code towards a view of ethics as 'enacted' (McCormack, 2003; Popke, 2009). Instead of a code of conduct where one is expected to know how to conduct themselves in advance of any eventuality, ethics are about coming-together in the space of 'the event'. Ethical

relations are continually ‘enacted’ in practice, based on the idea that new ways of ‘being’ ethical emerge from affective, uncertain potentialities in the world (McCormack, 2003).

In this sense, a digital visuality is constructed which enables the messy, multisensory contexts of research ethics encounters to be captured through a more flexible videographic medium. However, whilst this form of visualisation may enable a wider range of everyday, ethical experiences to be represented, filming or videoing a situation is nonetheless a form of representation in and of itself. The social reality it claims to describe is culturally constructed and mediated by the positionality of the filmmaker and the particular ways in which they ‘frame’ the situation. As such, as is the case with all representations – videographic, textual, or otherwise – the filmed ethical encounter is political: it involves decisions about which frames are included and which are left out, whose voices are represented in the video, which audiences can view the content, and which actors have ‘editorial’ control over the video’s depictions. Thus, whilst the students suggested that a video may provide a way to better capture the complex, entangled and embodied realities of an ethical situation in qualitative research, the group still ultimately disagreed about the limits to this form of representation.

As a brief final point, the human geography students also point out that research ethics are not isolated to one part of the research process, but are interwoven through geographical research from start to finish. In the context of writing and visually creating a textbook chapter, this makes it difficult to limit ethical discussion to one ‘section’ or ‘subheading’. Additionally, whilst a Story Map provides a more dynamic set of audio-visual tools represent ethical complexities, the presence of ethical issues throughout the research process suggests limitations for a film of an ethical ‘encounter’, a single ‘snapshot’ or moment of ethical reflections in a research process. Therefore, as we have argued, the digital visuality that underpins this vignette – a mediation between the complex social and political contexts of research ethics and subsequent attempts to visualise these complexities – raises a number of practical difficulties for representing ethical issues in qualitative research. The group’s debate highlighted three dimensions in particular: first, that research ethics are fundamentally contested; second, the potential for videography to represent the complex entanglements of ethical encounters; and third, that research ethics permeate the entire research process and isolated ethical ‘snapshots’ are an incomplete means to represent this extensiveness.

Vignette Three: A Politics of Ordering

A student apprehensively asked whether their Story Map had to be structured through linear sections of text - stating that they had designed a document that had text sections, but was largely map based, with clickable pins that took the reader to sections of interest. Their argument was that, whilst some aspects of the research process were linear, they wanted to reflect the unpredictability and unevenness of doing research – but were worried that they would lose marks for not having an obvious structure in places.

This discussion led to conversation about the tensions between the assessment brief – which asked students to produce a methods textbook chapter – and the Story Map digital format that they had been asked to produce the chapter with. The students in this group felt that the Story Map technology enabled them to introduce an idea, include written sections to provide more depth, and then illustrate how the concept played out differently in various spaces (with videos, photographs, movable arrows and information boxes, and maps with clickable pins).

The concern expressed by students here – both in terms of grades and general readership – was that somebody could engage with their Story Map and not feel as though they were following a specific narrative. With this in mind, one student commented that 'it would be nice if all the parts combined to build a picture of where we were, but people could click on audio if that's what interested them, or images if that's more important'. Another student echoed this, stating, 'Yeah…it seems stupid to have a written list of every aspect of a place because then it'll look like a shopping list'. Later on, one of the group came up to me at the front of the class, saying they had decided that the 'clicked pins' idea worked best because they wanted to highlight that 'you could make lots of arguments about these places and we don't want to pick just one because the assessment is about our method…is it okay if we make that our point of the Story Map?'

Such discussion reflected initial concern, and subsequent negotiation, about the narrative possibilities that the Story Map offered – to 'open up' a discussion about the nonlinear complexities of field research – and how these could be reconciled with the textbook chapter assessment brief.

In this vignette, the students reflect on the difficulties of translating an assessment that draws upon an established academic genre – the textbook chapter – into the interactive, dynamic format offered by an Arc-GIS Story Map. In particular, the students highlight a potential contradiction between the linearity of a textbook chapter (with its sequential paragraphs, case study boxes, keywords and so forth), and the nonlinear, multimedia opportunities of a Story Map (interactive maps, clickable pins, audiovisual materials, and links to other online resources). These differences are situated against a backdrop in which the roles of conventional 'textbooks' are increasingly questioned with the development of digital technology (Young, 2013). We argue that this vignette reveals a perceived tension between the genre of the assessment, a textbook chapter, and the digital Story Map technology used to complete the assessment. Whilst it could be argued that these tensions are more specific to the differences between the assessment itself and the digital platform used, we argue that there is a link to a broader debates about the role of academic textbooks in higher education. In designing a textbook chapter, students are being asked to reflect on what a textbook chapter is, how textbooks are used in geographical education, and what the conventions of textbook design are. In doing so, they are drawing on assumptions about the role of textbooks more broadly (in geographical pedagogy and education) when reflecting on the design of the digital Story Map. Situated against a backdrop of debate about what a 'textbook' is in an increasingly digital higher education context (Giacomini *et al.* 2013), the Exeter students negotiate these tensions in the production of their own methods textbook chapters. In doing so, the students' reflections and questions highlight a contested *politics of ordering*. Such a politics involves disagreements about which editorial choices to make to reconciling their 'textbook' based assignment and the Arc-GIS narrative technology, and about the *logical order* and *structure* their final product will be based upon (the *linear,* sequential structure of a conventional textbook chapter, and the *nonlinear,* dynamic possibilities of the Story Map).

Underpinning the difficulties of ordering the assignment are the changing expectations about what constitutes a 'textbook' in a university context. As Giacomini *et al.* (2013) note, academic textbooks continue to be an important component of teaching in higher education. In the US, academic textbooks accounted for almost $14 billion in sales in 2014 (DiBiase, 2015). They can form the basis for module reading lists, provide materials for class quizzes, underpin lecture notes, and provide an accessible, easy-to-digest source of information for academic subjects. DiBiase (2015) notes that e-books form an increasing segment of the textbook market, with much of the feel of a traditional textbook (often with original content scanned onto the online

version). However, e-books can provide greater interactivity than a printed edition, with options to highlight and note-take digitally, links to web sources, and compatibility with mobile devices (DiBiase, 2015). Giacomini *et al.* (2013) argue that as e-book technologies evolve, the need for fidelity to pages (and page numbers) will diminish and a more flexible reading format will develop. This will be a larger learning ecosystem, building on the success of Massive Open Online Courses (MOOCs), and will utilise a wide range of content types, including YouTube videos, PDFs, instructor and student generated content, PowerPoint slides, open-source content and high-quality diagrams (Giacomini *et al.* 2013). Young (2013), referring to 'the object formerly known as the textbook', argues that e-books increasingly resemble online courses and learning environments which integrate digital content with assessment tools (quizzes, grade management tools, course email and instructor dashboards). DiBiase (2015) makes a specific case for ESRI as a forerunner of nextgen learning environments, integrating interactive web maps with other digital and educational content. This changing context, the role, characteristics and genre of textbooks in an increasingly digital higher education context, underpin the tensions raised in vignette 3. The digital visuality which underpins the decisions that Exeter students were making for their assessment – trying to capture the complex, empirical messiness of using research methods in the field – is grounded in these technological transitions of the textbook genre.

As the students compiled their Story Maps, they negotiated with these tensions. In the vignette, the students reflect that the Story Map, as an interactive online format, afforded more opportunities to 'capture' and 'represent' the messy realities of applying research methods in the field. However, the students also ask whether the assignment needs to follow the linear, text-based character of a 'conventional textbook chapter'. In their deliberations about how to represent fieldwork and research methods, the students raise this potential contradiction about the capacity of Story Maps (dynamic, multimedia formats) to 'be' a methods textbook chapter. We argue that these tensions highlight a particular politics of ordering in the use of Arc-GIS Story Maps for the assessment. In a literal sense, such a politics involves disagreement about which items should be included on a Story Map: maps, paragraphs, clickable pins, links to ethical dilemmas in a range of contexts, photographs, films, graphics. However, perhaps more fundamentally, a politics of ordering also suggests contestation about how the Story Map should be *logically* ordered. Should it follow the *linear* conventions of a textbook chapter (clear, ordered sections which build one upon the other and are predominantly text-based), or follow a more *nonlinear*, dynamic ordering which the Story Map's technology offers? The

students recognise the ways in which a Story Map can help them to represent complex fieldwork experiences, but are trying to marry this against the conventions suggested by the assignment's requirements: to create a methods textbook chapter. We argue that the digital visuality suggested by this vignette helps to situate this contradiction. In an increasingly digital higher education environment where the role of the 'textbook' is changing, students and teachers are negotiating how to reconcile new digital technologies (including Arc-GIS Story Maps (Strachan and Mitchell, 2014; Battersby and Remington, 2014) with the 'conventional' ingredients of the textbook genre. To summarise, then, the digital visuality highlighted by this vignette combines an underlying political and education context (increasing digital technology in higher education), with the real, everyday and messy dilemmas of completing a geographical research methods assignment.

Concluding Remarks

This paper has sought to examine some of the values and implications of digital story-telling technologies for qualitative methods teaching. Engaging with reflections on the use of ArcGIS Story-Map in an undergraduate geography assessment, we have sought to problematize the notion that such resources exist as tools of representation. The intention here has not been to critique quantitative and GIS-based uses of such technology (we are personally aware of many who use such technologies to discuss the complex politics of representation). Rather, we have argued that the use of such technologies raise opportunities for students to engage with learning around the underlying epistemological assumptions of qualitive research. Subsequently, we argue that the tactile engagements with the messy realities of research in this instance raised valuable pedagogical opportunities to reflect on how knowledge is generated, framed and presented – contributing to a question of how we might better enable students to question the notion of a world of linear and finished social realities (Law, 2004).

In some respects, the vignettes presented through this paper could be argued to be exploring the same side of the proverbial coin. For one, they all relate to the difficulties of organising, representing and narrating the complex and messy realities of doing qualitative research. In part, these realities reflect students struggling with and engaging with the fact that all knowledge (including qualitative research) is inherently *situated*. Yet, the employment of the idea of *digital visuality* as a conceptual apparatus has opened up exploration of how the politics and contexts of qualitative research are made sense of, filtered, and subsequently communicated, through different modes of visual representation. In this way, conflicts and

negotiations around what constituted ‘authentic research’ (vignette 1) speak to something more nuanced than discussions about what constitutes ‘good research’; rather they represent reflexive negotiations and acknowledgements of the politics knowledge production and reception (in that students demonstrated an awareness that a story was inherently being produced to be consumed – something that is perhaps not grasped in the same way with a narrative-based essay).

Similarly, discussions about how to visualise ethics revealed the visualities at play are always interwoven with other senses: decisions to show (or not) video, text, imagery or otherwise of so-called ‘good ethics’ were intended to demonstrate emotive connections (care, empathy, concern etc.) in addition to the more formulaic understandings of ethics (showing a participant signing a consent form, for example). Additionally, the requirements of the assessment brief – a methods textbook chapter – required students to reflect on how they would use the Arc-GIS Story Map to represent qualitative research: which decisions do students make (for example the use of maps with clickable pins) to capture messy, unpredictable, and multisensory qualitative research situations? In these cases, and the others explored throughout this paper, the digital representation of the research process stimulated different kinds of experiential reflection about the visual and more-than-visual components of qualitative methods. Subsequently, we argue that digital visuality in these instances is also inherently embodied since the creation and curation of digital storytelling required users to form, transcribe, upload, click, drag, order (and so on) in order to visually represent the complexities of qualitative research.

In doing so, our exploration raises questions about how educators might incorporate these discussions and learnings into pedagogical practice. As we noted earlier, while the Story Maps technology undoubtedly enabled engage with disussions about the social realities they were creating and portraying, such processes are not limited to just this technology. Pertintently for pedagogical practice, our observation is that in this instance Story-Maps formed a part of the meaning-making practices through which the qualitative research process was lived, understood and organised by students. Acknowledging this might mean, on one hand, articulating the idea that these processes of crafting and bundling that play out as students make decisions about presenting qualitative research is as much a part of the method as standing in the street making journal notes. Students are not *writing about methods*, but continually *performing a method* as they perform fidelity to messy and complex empirical encounters.

On the other, perhaps more pragmatically, there's the acknowledgement that research encounters often aren't suited to being represented through a single (or particular) mediums. As John Law (2004) notes, "certain kinds of realities are condensed at best with difficulty into textual or pictorial forms…". Emotions, concepts and encounters are, he argues, "…excessive to the word and can only be gestured at textually" (p.147). We therefore encourage educators to, where appropriate, generate space for students to question how and what they choose to represent – enabling students to recognise that these choices are constantly crafting and enacting boundaries between presence/absence, linearity/disorder and subjectivity/objectivity. While we have sought to examine just one instance here, we see potential in these for these spaces to invigorate methods-teaching for undergraduate students. As the Story Maps task has demonstrated, encouraging students to (i) engage with multiple forms of representation (ii) toy with boundaries of order/disorder and (iii) reflect on qualitative epistemology in the application of new technological skills all generate opportunities to perform fidelity to the messy realities of qualitative research in the field.

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