

What counts as accomplishment in geography teaching? On signature pedagogies, professional standards and the performativity of practice

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Abstract:

Set within the context of neo-liberal education policy reform, this paper addresses the question of the character of accomplished teaching, with particular attention to accomplished geography teaching. Taking the development of standards for teaching school geography in Australian schools as its ground, it explores the putative roles and relations of teaching standards and signature pedagogies (Shulman, 2005a) in this teaching. Drawing on concepts from actor-network theory and video case data of classroom teaching, attention is given primarily to pedagogic practices as possible patterns of relations, both social and material, within school geography. The data collection approach adopted used technically complex methods for video recording classrooms and supplemented the video records with 57 post-lesson, video-stimulated interviews with students and the teacher in an effort to 'capture' the specificities of practice. Eleven case studies (22 lessons altogether) were conducted in eight schools in three major Australian states. Working three video-based case examples of classroom practice from the larger video data set, along with teacher and student commentary on this practice, we show that a somewhat different reality of accomplished geography teaching, and of standards and pedagogies for this teaching, presents in each classroom. Geography teachers were found to be both teaching in a signature form and beyond this form, through, for example, creating conditions for the further development in their students of attributes of lifelong learning and active citizenship. Accordingly, the empirical evidence did not strongly support the idea of a signature pedagogy for school geography. Rather, it 'told' pedagogy as a contingent, distributed and diverse practice. We propose that a wide variety of pedagogies and the professional wisdom (of practice) to select among them, might be just as suitable a characteristic of accomplished geography teaching as any signature pedagogy.

Introduction

For a decade or more, successive Australian governments have taken a variety of initiatives towards improving the quality of teaching and learning in schools. Professional teaching standards are one of the main tools through which policy makers and education authorities, in many countries, including Australia, hope to make teaching practice less variable, more reliable and increasingly effective. Typically, teaching standards seek to articulate what is valued about teaching and describe the critical features of what teachers *know*, *believe* and are able to *do*. The literature on signature pedagogies (Shulman, 2005a, 2005b) similarly concerns what people come to do, think and value. As Shulman (2005a, p.54) has it, signature pedagogies 'implicitly define what counts as knowledge in a field and how things become known'. Thus, fruitful connections between these concepts and practices can be made. Each 'speaks to' the idea of accomplishment in teaching. And, in the continuing debate about the nature of a knowledge base for teaching (see, for example, Hiebert, Gallimore, & Stigler, 2002), each can be viewed as a practical articulation of the knowledge base of the profession.

In this paper, we explore the character of accomplishment in geography teaching and the putative roles and relations of signature pedagogies and professional standards

in this accomplishment. Central to our investigation is the notion of *performativity*: the reality of accomplished teaching does not exist outside its 'doing' in various practices. Using data collected as part of an Australian Research Council project on the development of standards for teaching school geography, we engage the issue of how a standards discourse of accomplishment in which standards are taken to be more or less transparent windows on a pre-given reality (Law, 2009b, p.7) has become so authoritative that it readily eclipses other ways to think accomplished teaching. Similarly, we raise the issue of how a 'signatures' discourse of accomplishment whereby signature pedagogies, if identified for school subjects and disseminated as *the knowledge* needed to teach these subjects, could become equally authoritative and possibly eclipse other ways to think pedagogy, for example, pedagogy as *unknowing* (Zembylas, 2007) or as 'in excess of our knowing' (Lather, 2010, p.87).

Addressing these issues empirically, we work three video-based case examples of classroom practice, along with teacher and student commentary on this practice, and show that a somewhat different reality of accomplished geography teaching, and of standards and pedagogies for this teaching, presents in each classroom. In so showing, we ask: what sorts of things *are* teaching accomplishment, teaching standards and signature pedagogies and can there ever be a unitary, stable conception and framing of them? Drawing on the distinctive semiotic perspective of actor-network theory (Gad & Jensen, 2010; Latour, 2005; Law, 2009a) in which material agency is accented, and taking seriously its idea that material objects, like human subjects, can take different forms in different places and practices (Law, 2002; Mol, 2002), we ask the seemingly simple question: 'where is teaching accomplishment?' towards conducting an *ontological inquiry* and arguing, after Moser (2008, p.99), that if entities such as accomplishment, signature pedagogies and teaching standards are enacted differently in different socio-material practices and arrangements, then it becomes important to explore the politics of the practices and arrangements that prevail.

Context and background: Preparing young people for the geographical profession and 'whole-of-life' learning

Shulman (2005a, p.52) uses the term signature pedagogy to describe 'the characteristic forms of teaching and learning ... that organize the fundamental ways in which future practitioners are educated for their new professions'. A signature pedagogy is a 'mode of teaching that has become inextricably identified with preparing people for a particular profession' (Shulman, 2005b, p.9). To what degree does school geography invoke core characteristics of the discipline/profession? Has it 'developed characteristic forms of teaching and learning that, like the name of a person written in his [sic] own hand, are done in the same way from teacher to teacher and institution to institution'? (Calder, 2006, p.1360-61). And, how appropriate is it to expect students in school to be taught in ways that 'require them to do, think, and value what practitioners in the field are doing, thinking, and valuing' (Ibid., p.1361).

Surveys of the major debates and schools of thought in geography acknowledge that there is no singular geography and no one way that geographers produce knowledge (Johnston & Sidaway, 2004). In the UK context, many researchers have described the decoupling of school geography and academic geography (see for example, Rawling, 1996; Stannard, 2003). While much has been written on the disengagement of these geographies, little attention has been given to signature pedagogies in geography at either university or school level. Of those who have investigated the viability of signature pedagogies within university geography, Hovorka and Wolf

(2009, p.99) state that 'in many respects fieldwork is geography's signature pedagogy at the undergraduate level'. 'The goal of geography education in most colleges and universities in the United States (and, we might add, Australia) is to teach students to think like geographers do. Students should progress along the continuum from novice to expert geographer' (Komoto, 2009, p.123). However, in the schools sector, with its diverse student population, this 'think like geographers do' goal might be deemed too specialised or overly academic and narrow. The object of school geography may be to provide the basis for lifelong learning rather than entry into the disciplinary field of geography and professional practice in this field? Geographical thinking is valuable throughout the lifespan and can contribute to a capacity for lifelong learning, yet styling school geography along the lines of thinking may constrain its other contributions – learning that lies at the limits of thinking and knowing such as *affect*.

Actor-network theory: Thinking in a performative frame

Actor-network theory (ANT) is 'a disparate family of material-semiotic tools, sensibilities and methods of analysis that treat everything in the social and natural worlds as a continuously generated effect of the webs of relations within which they are located' (Law, 2009a, p.141). Instead of asking *why* things happen, the material semiotics of actor-network theory asks '*how* they occur. *How* they arrange themselves. *How* the materials of the world (social, technical, documentary, natural, human, animal) get themselves done' (Law, 2008, p.632, original emphasis). The assumption is made that nothing has reality, or form, outside its performance in *webs* of relations with performances being defined as 'material processes, practices, which take place day by day and minute by minute' (Law & Singleton, 2000, p.775). Law (2009b, p.1, original emphasis) continues:

If we think performatively, then reality is not assumed to be independent, priori, definite, singular or coherent. Rather the logic is turned upside down. If reality appears (as it usually does) to be independent, prior, definite, singular or coherent then this is because it is being done that way. ... Practices enact realities ... This means that if we want to understand how realities are done or to explore their politics, then we have to attend carefully to practices and ask how they work.

And practices are?

For my purposes, practices are detectable and somewhat ordered sets of material-semiotic relations. To study practices is therefore to undertake the analytical and empirical task of exploring possible patterns of relations, and how it is that these get assembled in particular locations. It is to treat the real as whatever it is that is being assembled, materially and semiotically in a scene of analytical interest (Ibid., original emphasis).

The turn to performance has been taken in various disciplinary fields (eg. human geography, cultural studies, contemporary political theory). ANT's version of this turn affords attention to *materiality* and *multiplicity* and, in so doing, promotes investigation of ontological difference.

Since performances are specific, this also leads to multiplicity, so that what appears to be one thing (an "object," "working," "knowledge") may be understood as a set of related performances. More strongly, it suggests that abstraction (including abstract knowledge) is a performance, something enacted in specific locations that has to be reenacted in other locations in

further performances if it is to carry. This has all sorts of implications. One is that things don't come to rest in a single form once agreement, or what is called "closure," is achieved. They rumble on and on, as it were, noisy and noisome (Law & Singleton, 2000, p.775).

In holding to the idea that reality does not precede practices but is made through them, ANT attends to the idea that practices have a political life. 'Practices organize and reproduce the distribution of power, knowledge, and the inequalities that go with them' (Nicolini, Gherardi, & Yanow, 2003, p.24). They have built-in normativities, contributing to 'some worlds-in-progress but not to others' (Moser, 2008, p.99). The question becomes which worlds we want practices to make. Do we want to build our programs of school education around pedagogies that teach young people to think like, act like, and be like a geographer, a scientist, a mathematician? And/or, do we want to take in purposes other than professional preparation, in school education?

The project in question: Data and method assemblage

The project described here was concerned to study what 'accomplished' geography teaching *is* by documenting what geography teachers, who are deemed accomplished, *do*. Data were sourced from teachers and students via video recordings of accomplished teaching with identification of accomplished teachers being made by way of purposeful sampling.¹ In an effort to 'capture' the specificities of practice, the approach adopted used technically complex methods for video recording classrooms, with the video records being supplemented via post-lesson video-stimulated interviews with students and the teacher.² Pre-lesson interviews with each teacher were also conducted. Altogether, eleven case studies (22 lessons altogether) were conducted in eight schools (government and non-government; metropolitan and non-metropolitan) in three major Australian states. In all cases, video recordings were made over the course of a sequence of two lessons, each lasting for approximately fifty minutes. The three fieldwork tales told below concern three of these case studies. Guided by the principle that signature pedagogies are considered to be pervasive within the curriculum and to cut across institutions and not only courses (Shulman, 2005b), the case selections concern three schools, two large schools in the metropolitan area, a private school and a government school, and a medium size, non-government school in a rural area. The classes comprise two Year 9 geography classes and 1 Year 8 geography class. Taking practice as the unit of analysis, and giving particular attention to pedagogies and standards, *we explore possible patterns of relations regarding accomplishment in geography teaching and how it is that they get assembled in particular locations.*

Accomplishment in action: Performing pedagogies and enacting standards

Sandra's story: 'I've given you a selection of media here to show data about Geelong'

¹ Members of the Australian Geography Teachers' Association and its affiliates, the peak professional associations for school geography in Australia, were invited to nominate teachers who are widely regarded professionally, using various criteria including reputation for accomplishment within the field of geographic education, years of experience teaching school geography, teaching qualifications, and so on.

² For each of eleven classrooms, two lessons were videotaped using three cameras. One camera focused on the teacher, a second on individual students as part of a working group, and a third on the whole class as seen from the front of the room. Using as catalyst the video record from the whole class camera, with the teacher camera image inserted as a picture-in-picture image in one corner of the display, teachers were invited to make a reconstructive account of the lesson events deemed critical to student learning. Similarly, students were invited to make an account of lesson events, using as stimulus the video record from the teacher camera, with the individual students' camera image inserted as a picture-in-picture image in one corner of the display.

Our first case is set within a large, private, boys' school in the metropolitan area. Deemed by her peers to be a highly accomplished geography teacher, Sandra is about to commence a class in which the Year Nines are to be introduced to Geelong, Australia's largest regional municipality and 'Home of the Cats', an Australian Rules football team which, after many years, has managed to win a premiership. Teaching at an all boys' school where sport, particularly football, has a large following, she aims to look at the geography of sport and map 'where the goals were kicked and the behinds were kicked using the choropleth technique and then we are going to do a ray diagram (looking at) where the players come from, to go to play for Geelong'. The pedagogies that Sandra plans to build her lessons around concern geographic *skills* – 'So it will be a skill-based couple of lessons looking at things like location and region, geographic characteristics' – a geographical *case study*.

Leveraging off these pedagogies, she is also engaged in standards setting, articulating the norms or rules that are used in school geography for determining levels of achievement in the subject. These norms are heterogeneous; they involve an *entanglement* of socio-material elements. Parsing the lesson,³ Sandra begins a sequence in this way:

Looking at the handout please gentlemen, take that in front of you. We're going to work through the different questions quite slowly today so that we're really learning the correct way to do some answers and the first one we are going to look at is the map which is labelled A, alright, so it's showing the location of Melbourne and then Geelong. It's the very first map; could you all look at that please. (It's labelled) A. Now if we look at our handout, the written answer one, it says (reads aloud) 'this data broadsheet introduces us to a range of what we call geographic media'. Now in Year 12, they have to have a range of media in order to present their work. And they're tested at Year 12 and 11, we test the ways that they can present information. So I've given you a selection of media here to show data about Geelong. So look through the data A-S, which you've just done, to get a feel for the characteristics of Geelong. Now the first one A is what we call a thematic map. Looking at the map A (reads aloud) 'name the main land use which is shown on the map'. Now where would a good place be to find that answer if you're looking at a map? (Student response in the background.) The legend. Have a look at the legend, sometimes it's called the key and what is it actually telling us?

Geographic knowledge, understanding and skills are assembled *materially* through the data broadsheet; *discursively* through the connections that Sandra makes between map skills and the regional municipality of Geelong; and *interpretively* through the evidence-driven 'mini' inquiries that the students are encouraged to make. Potentially, skillful geography students, students who can interpret maps and other geographic media, are the product of this 'assemblage'. Teacher words and gestures, concepts, visual representations, the data broadsheet, the 'written answer' handout, standards of written work, embodied skills, the double desks at which the boys sit as 'partners' come together to produce (real-ise) the practice of teaching and learning in geography and the standards of this teaching and learning.

While Sandra attests to the fact that geographic *skills* are the 'signature form' (Shulman, 2005b) of the lesson in hand, there is more going on these data. For example, what's to be made of her shift in the lengthy quotation above when invoking the practice of geographic education in Year 12? 'Now in Year 12, they have to have a range of media in order to present their work. ... So I've given you a selection of

³ As Hiebert et al (2002, p.8) comment, 'teaching is such a complex activity that it must be parsed in some way to study it'.

media here'. As we read these data, Sandra is taking an opportunity to shape the subjectivity of the Year 9s. Implying the importance of school geography in the senior years, she aims to steer their curriculum choices, fashion a future for them as would-be geographers. Making a seeming diversion from her 'teaching text', she deems that a connection between the work and learning worlds of Year 12 students and of Year 9 students should be made, serving as it might to motivate the Year 9s with regard to learning to work with a range of geographic media.

Sandra's subjectivity shaping work also extends to sensitising the boys to the dynamics of locations 'other' than capital cities: 'I'm hoping that they (the boys) will get a better understanding of what Geelong's like ... that they're not always thinking that (metropolitan) Melbourne is the best place to be'. She is committed to raising awareness of regional life – 'There are opportunities down there in terms of work and education' – and, in so doing, raising the profile of the sub-field of regional geography. While this pedagogic practice is formative – as Shulman (2005b) has it, it is a *pedagogy of formation* that can build identity and character, dispositions and values – it is (ontologically) ambiguous. It can be interpreted as fashioning future geographers, teaching in a *signature form*, or as fashioning critical thinkers, teaching in a *generic form*. We suggest that Geography as a school subject is being assembled as part of a disciplinary field *and* as part of the larger landscape of students' learning and lives. These Year 9 geography students are constituted as: would-be *geographers*; *non-school leavers* – 'Now in Year 12, they have to have a range of media ... So I've given you a selection of media'; and as *critical thinkers* sensitised to the dynamics of difference so that 'they're not always thinking that (metropolitan) Melbourne is the best place to be'.

Simone's Story: 'We learn about things that happen on the actual news and the happenings around the world'

Having been teaching for approximately five years, Simone is a relative newcomer to the profession. Relocating recently from another Australian state, she is also new to her non-government school in country Victoria and, yet, is prepared to be filmed. The topic prepared for the Year 8 geography class in which this filming takes place concerns 'different river processes'. Simone introduces the lesson thus: 'We're going to start looking at river landforms and the way rivers work in erosion, deposition and transportation'. Her avowed intention in the lesson is to build knowledge about the workings of these river processes in preparation for a forthcoming field trip to a river, affirming the claim that fieldwork constitutes a signature pedagogy for geography (Komoto, 2009), and possibly, school geography.

Having introduced the lesson topic, and five or so minutes into it, Simone stops and announces: 'Before I start though ... something pretty big has happened and I couldn't ... not talk about it today'. Showing a series of digital images of Burma, she proceeds to hold a lively class discussion about the impact of a tropical cyclone, Cyclone Nargis, which, as reported worldwide earlier in the day, has devastated southwestern Burma, and concludes thus:

I just couldn't come today and not talk about this ... it's a big deal. Sixty thousand people, that's a bit of a big deal and Australia is currently tossing up (as to) how much support we should provide. ... That was just my little quick introduction; 'cos we couldn't live without that.

The class discussion which plays out for close to ten minutes is enacted socially and materially. Teacher and student questions, disciplinary and experiential knowledge,

digital images and desk arrangements, all play a part. Performed through a series of quick-fire questions, this pedagogy is guided by moral intentions and societal aims:

If there was a cyclone that hit (name of local area), very unlikely, but if it did what would happen straight away?

Why would it (the land) flood in the first place?

You live in Burma ... you are a farmer ... you don't have much money ... the cyclone's gone, are you still in danger?

As a rich country like Australia, what should we be doing to help them?

A diverse range of pedagogic practices is performed including the incorporation of students' background knowledge and experiences, role-playing and case study, visualisation skills and map use (via the digital images of Burma) and critical connectedness to the real world ('As a rich country like Australia, what should we be doing to help them?'). Geography's 'distinctive inquiry-based methodology' (Lane, 2009, p.44) is also being enacted.

Like Sandra, when Simone is teaching in the 'signature form' of school geography, she is prepared for contingencies and so are her students: 'We learn about things that happen on the actual news and the happenings around the world'. As she relates at the post-lesson interview:

The first thing I decided to do this morning was to talk about the cyclone. I added that to the (lesson); that to me was important. Because one of the things I have been talking to them about is current events in geography. So, I thought I have to talk about this. That was a key event.

and adds, interestingly: 'Talking about the cyclone, that was unexpected for me. I, I, that was just something, I just thought this morning, I've got to talk about this'. While styling the decision to talk about the cyclone as an epistemic one – 'I added that ... because one of the things I have been talking to them about is current events in geography' – which potentially provides discipline-specific learning experiences, something more appears to be playing out in these data. Simone is engaged not only in professional knowledge work but also in *ontological* work (self-work). The felt intensity expressed in: 'I've got to talk about this', and, "cos we couldn't live without that', and, 'I couldn't ... not talk about it today', is a marker of identity work, a show of subjectivity: 'patterns by which experiential and emotional contexts, feelings, images and memories are organized to form one's self image, one's sense of self and others, and our possibilities of existence' (De Lauretis, 1986, p.5).

The identity of the accomplished geography teacher, and by extension accomplishment in geography teaching, is not centred and settled. It is *continuing* and we surmise 'split'. Practising in the context of school teaching involves forms of instruction that provide the possibility of membership of particular professions as well as 'whole-of-life' development of knowledge, understanding and skills. Thus, in response to a comment by a student about rivers and erosion, Simone says 'as a good geography student, and a good person for the environment, you probably wouldn't want to promote erosion of a riverbank'. Concerned to produce these 'good' people, Simone creates conditions for what can be called learning through identity – learning as changing selves. Learning so constructed is a lifelong endeavour. We propose that different identity positions for learning in school geography are on offer, challenging the idea of a 'signature identity' for this subject. Simone's students

appreciate the orientation to 'more than subject geography' that this geography class provides: '(The things that helped my learning were) things like the casual talks, like about things, not just the topic that we are learning, things that happen on the actual news and the happenings around the world'. We propose that *multiple school geographies* are in evidence here: a version of school geography that maps onto academic geography and a version of school geography that is carried through 'casual talks'.

Simon's Story: 'I work from their personal geographies'

Teaching in a large, co-educational government school in the metropolitan area and holding a senior position within this school, Simon is deemed by his peers to be not only a highly accomplished geography teacher but also a leader within the profession. Having just commenced a topic on coasts, his Year 9 geography class is being prepared for a coastal fieldwork trip to Victoria's Mornington Peninsula.

One of the main skills for this year that we need to develop is fieldsketching. OK? Now, there are three aspects to fieldsketching. ... I'll tell you what those three aspects are, then I want to give you an example to do, then we're going to simulate doing a field sketch 'cept it will be a photo sketch, similar sort of idea but we're going to practise it.

Fieldwork can be considered a characteristic form of teaching and learning in school geography and, as Simon describes in the pre-lesson interview, is something that the Year 9s are somewhat knowledgeable about:

Why have I chosen coasts? ... This is our first really extended external fieldwork and I want to work with something that they are familiar with. So the coast. Ninety per cent of the kids have some familiarity. And, as I explain in class, I work from their personal geographies so this first one is really working something that they're familiar with and then applying the process they're familiar with, observation. And at this level at Year 9, the fieldwork is, or my objective is, purely getting them to observe and record, and a little bit analyse or make observations of their own thinking. It's simply to get them into the process of taking part in an activity.

Posited to be geography's signature pedagogy at the undergraduate level (Hovorka & Wolf, 2009), fieldwork affords 'seeing' geographical knowledge, or better perhaps, provides an *embodied* understanding of it:

These first lessons are really the theory part and building it all up – the knowledge. The fieldwork explicates that knowledge and let's them see it.

Students appreciate learning through 'hands-on' pedagogy as they report at interview upon completion of their trip to the coast:

At one point ... we put red food dye in the water and see (*sic*) how the waves would carry it out and then it pushed it forward, pulled it back and then it pushed it forward up the sea. And then we measured how far it moved in such time.

This (coastal field trip) was more seeing; my other (geography) excursion was more hands-on, feeling what the type of soil was.

I find it (field trips) much more useful because you've got something to look at. Not just, you know, when you are writing (things) down you are trying to think about what it would be like. This is what it *is* like. So it's really good.

The character of accomplishment in teaching fieldwork is similarly 'hands-on', as Simon comments when speaking about his preparations for a fieldwork trip:

... I went down a few weeks ago along the coast ... I'm re-looking at 'oh yeah, that's changed, I can see ... '. With my senior fieldwork, I go up the weekend before, just to see the site, see what's going on, access, camping, facilities, and that.

Teaching and learning present as socio-material practices in which human bodies, buses, environments (coasts), places and spaces play a constitutive part as illustrated in this collage of images taken from the video record of the coastal fieldwork trip:



Figure 1: Year 9 geography students completing field sketch on coastal fieldwork trip

Taking our lead from the idea that realities can take different forms in different places and practices (Law, 2002; Mol, 2002), we propose that geography as a school subject is somewhat different here. The geography of the geography classroom is different to the geography of the geography field as different patterns of pedagogic practice characterise each of these locations. Certainly the students imply as much in their enthusiasm for fieldwork: 'when you are writing (things) down you are trying to think about what it would be like. This is what it *is* like. So it's really good'. During fieldwork, learning is conceived and enacted as an environmental *encounter*: 'what it *is* like'. In the school setting, Simon teaches the class largely as a class, using structured instructional methods; in the fieldwork setting, he conducts quick conversations with groups and individuals:

Student: Are we going to draw all that?

Simon: Yeah, you want to show that. Do it like a snapshot.

Student: From here to there?

Simon: Yeah, so you have a curve, you have the groynes, the harbour. Got the idea?

Student: But that's a lot to draw.

Simon: Yeah I know, so you've got to change the scale a bit. Have a go.

Different versions of accomplished geography teacher (subject expert, learning coach) and different versions of geography (school geography, field geography, personal geographies) are being done. And, we claim, contrary to the idea of putting pre-given signature pedagogies and/or teaching standards into effect, *it is the doing of these differences that makes for accomplishment in geography teaching.*

Accomplishment in geography teaching: Choreographies of practice

Throughout the telling of the data stories (Lather, 1991), we have been at pains to show that accomplishment in geography teaching involves a mixture of people, processes and things. Exploring possible patterns of relations regarding accomplishment in geography teaching and how it is that they get put together in particular locations and create particular effects, we have stressed the performative role played by material objects and practices within the broader practices of teaching and teaching processes (pedagogies). Difficult as it is to shed the belief that teaching initiatives always come from the teacher, or better, a relationship between the teacher and her students, these data evidence the idea that teaching accomplishment is enacted and achieved in webs of relations with these relations being defined as 'material processes, practices, which take place day by day and minute by minute' (Law & Singleton, 2000, p.775). The case data support the idea that teaching accomplishment can be understood as a *choreography of practice* (Law, 2009b) that brings different and contesting realities (e.g. cognitive, social, behavioural, corporeal – 'Are we going to draw all that?') together. In emphasising the relational and material character of teaching accomplishment, we have attempted to open up a space for thinking this accomplishment differently. Thinking accomplishment as an assemblage affords a sense of *collective responsibility*. For example, standards are no longer the exclusive concern of the teacher or of the school. They are embedded in distributed, heterogeneous and specific practices, so responsibilities for developing and maintaining them are similarly distributed and heterogeneous.

Pedagogies too are a collective responsibility. Throughout this paper we have attempted to focus up the idea of *teaching* in a signature form (or not), in contrast to 'finding' (or not) signature pedagogies – 'things' in themselves. Accordingly, we have given less attention to those pedagogies that are explicitly described as signature pedagogies and more attention to what is being done pedagogically in school geography teaching. Signature pedagogies position school teachers as subject experts and students as prospective geographers. These positionings are right and proper, however in school geography there is more. While the practices of accomplished geography teaching have a certain pedagogic coherence – school students *are* encouraged to think like geographers do – and patterns of practice are discernable in the data (see below), the pedagogies that characterise this teaching do not have a single structure. They present somewhat differently in different classrooms and other locations challenging the idea of a signature pedagogy for school geography.

Teaching in a signature form and beyond

We propose that a wide diversity of pedagogies and the professional wisdom (of practice) to select among them, might be just as suitable a characteristic of accomplished geography teaching as any signature pedagogy. Accomplished teaching in school geography certainly involves teaching in a signature form:

This is nothing to do with the teaching, but one of the affective objectives of what I do in showing them the Year 11 (field trip example) is also to let them

(the Year 9s) know where we're heading and where Geography leads, so they've got some continuity or see some link between (how) what I'm doing now might lead to this and so on. They can see our point and hopefully come through the system. ... This is really the first year where we start training them as geographers; before that they could have any type of geography (Simon).

Signature forms are foundational, necessary, but not sufficient to the preparations that prospective geography professionals might make before entering professional practice. Teaching at school level goes beyond preparing young people for the conditions of practice in their chosen professions, that is, integrating them into a complex of field specific knowing, doing and being. While Simon emphasises 'training them (school students) as geographers' he also works 'from their (the students') personal geographies', implying that he has a number of purposes in mind, ends in view. Similarly, when Simone says 'as a good geography student, and a good person for the environment, you probably wouldn't want to promote erosion of a riverbank', acknowledgement appears to be made of multiple roles and identities in and beyond school geography (i.e. geographer, environmentalist, active citizen).

Re-viewing (re-assembling) the case data as a whole, *teaching in a signature form* in geography at school level involves:

- using approaches to bring the empirical world(s) to the students and promoting students' learning in and through this world. This includes *fieldwork* and the use of the geographical *case study* in which characteristics of a place can be encountered through a range of media (the data broadsheet discussed in 'Sandra's story' serves as a key example);
- seeking to develop the *skills* of analysing, representing and communicating information through maps, diagrams and graphs (Simon's lesson on fieldsketching serves as an example); and
- designing learning which is framed by *inquiry* – progressively asking students to ask questions and to investigate (the class discussion conducted by Simone concerning the impact of Cyclone Nargus serves as an example).

The strength of teaching in a signature form lies in its potential to make the thinking of the discipline visible. The risks attached to this teaching however, concern the possibility of a centralised viewpoint, the viewpoint of the profession and/or the professional practitioner – the possibility of turning 'what is being done in practice into what necessarily has to be' (Law, 2009b, p.15, original emphasis). In a school context, and as (our reading of) the data demonstrates, a more distributive view of knowledge seems to exist: 'I work from their personal geographies'. Accomplished geography teachers 'recognise that skills, knowledges and their realities come both in different forms and are widely distributed across the social and material landscape' (Law, 2010, p.9, original emphasis). Altogether, it is not, certainly, that the search for a profession's signature pedagogies is wrong; rather, it risks embracing rather than refusing singular models, models which are based on one type of pedagogy as the norm by which all others are judged.

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