

What makes a geography lesson good?

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Based on a lecture given at the 2011 GA Annual Conference

Introduction

During the last 30 years I have had the privilege of observing many geography lessons, both in my role as PGCE tutor at the University of Sheffield and as External Examiner for geography PGCE courses. Inevitably, whether guided by external criteria or not, I have made my own professional judgements about what I thought about the lesson, whether it was good or not.

When I gave the lecture on 'what makes a geography lesson good?' at the 2011 GA Annual Conference, someone commented that I should have talked about what would make a lesson 'outstanding', using Ofsted terminology. The point of the lecture, however, was to present a viewpoint which focused on a more holistic professional judgement of a lesson, rather than checking it against any external terminology or lists of standards.

Standards for QTS

I am arguing for a more holistic viewpoint because I am concerned about how lists of standards have influenced PGCE students' lessons and judgements about them. When I became a PGCE tutor in 1982, there were no external criteria to guide my judgements. Although HMI at that time inspected PGCE courses and had internal criteria on which they evaluated lessons, these criteria were not published until after 2000. It was not until the 1990s onwards that I had to take account of a succession of externally determined standards. In 1992, CATE (the Council for the Accreditation of Teacher Education) produced a list of competencies that student teachers had to demonstrate. These were replaced in 1998 by the Teacher Training Agency's list of standards for Qualified Teacher Status (DfEE Circular 4/98). These standards were substantially revised in 2006 and again in 2008. The 2008 standards published in Professional Standards for Qualified Teachers Status (TDA, 2008) will be replaced with new standards in 2012. The fact that the standards have changed several times over the last twenty years, indicates that the elements that contribute to good lessons are open to debate. Most people involved in education would have their own views on what should be included in such a list. There are some advantages of having national standards, even if they are contestable and open to interpretation. They provide guidelines for PGCE tutors, students and mentors. They provide common

standards across the country so that there is greater consistency between different institutions. They also highlight some aspects of lessons that might otherwise be neglected.

In spite of these advantages, however, they are often used in PGCE courses as tick lists, for which students have to provide evidence of achievement. This can resemble girl guides or scouts collecting separate badges and having achieved them moving on to the next. The standards, of course, are not like this and most need to be demonstrated again and again. There is a tendency to give attention to standards not yet achieved and to focus on separate elements of a lesson rather than to consider lessons as a whole. I have heard mentors comment that a lesson was good because it had objectives on the board or because questions were well distributed or because numeracy was included (often simply the drawing of a graph) etc. These achievements might signal progress by a PGCE student, but in themselves do not make a geography lesson good. Indeed, I have observed lessons which have been judged to be good because of progress in particular standards, when the teaching and learning of geography was very poor. In other cases, I have observed lessons in which the teaching and learning of geography was impressive, but which were nevertheless strongly criticised because, for example, they lacked a plenary, or lacked pace. The checklist can distort judgements by acting as a blinker to what is really happening.

Another problem with lists of standards is that they appear to be of equal weight. But some standards are more important than others and have to be demonstrated in every lesson. Clearly lessons need to be well managed, but to make a geography lesson good, it is the teaching and learning of geography which is crucial and there are some aspects of this that I think are essential and need to be demonstrated in every lesson:

- There needs to be some geography in the lesson
- There needs to be a connection with the learners' minds
- There needs to be an opportunity for learners to make sense of new geographical knowledge for themselves.

Although these are interconnected, I will discuss each separately.

1. Geography

It might seem obvious that there needs to be some geography in a geography lesson, so what do I mean by this? By 'geography' I would emphasise three things: geographical data; geographical ideas and geographical context. I have observed many lessons where some or all of these have been absent. (Roberts, 2010)

- Geographical data

I think that every geography lesson should contain some geographical data. If we accept that the purpose of teaching geography is to help students understand the complex world we live in then, apart from occasional work outside the classroom, they are not going to be able to study it first-hand. For the most part, students are going to study the world through representations of the world in various forms of secondary data. Compared with other subjects, geography teachers are fortunate in the variety of forms of secondary data that they can use and that are readily available, e.g. maps, visual data of all kinds, statistics, graphs, text, etc. This secondary data can be presented in textbooks, on resource sheets, on PowerPoint presentations or it can be accessed through the Internet. I see secondary geographical data as the 'real stuff' of the subject, the evidence we use to make generalisations and judgements. Teachers might draw on students' first-hand knowledge of the world as evidence, but in the classroom students are generally going to study the world through secondary data.

I have observed many lessons in which there have been no representations of the world for students to study, no geographical data, indeed no evidence. Instead, I have seen classes presented with generalisations of various kinds e.g. lists of advantages/disadvantages, lists of push factors and pull factors, but without any data or actual case studies to which they might be applied. I have seen lessons based on quotations from imaginary people or information about hypothetical places, instead of being based on real people and real case studies.

- Geographical ideas

I think that every geography lesson should introduce students to some geographical ideas. Geographers make sense of the world through their ideas, through generalisations, concepts and theories. The big ideas of geography include place, space, physical and human processes, interdependence etc. (Jackson, 2006, Taylor, 2008) and one or more of these big ideas might underpin a unit of work. A lesson might introduce students to particular concepts, e.g. erosion, deposition, relief, migration, poverty, inequality, trade. It might introduce students to theories, e.g. the theory of plate tectonics or different theories of development. David Lambert (2011) and Jackson (2006) have referred to geography's ideas and concepts as the 'grammar' of the subject as distinct from the vocabulary of the subject. The GA Manifesto, A Different View, (2009) states that 'one way of understanding geography is as a language that provides a way of thinking about the world: looking at it, investigating it...' Continuing the metaphor it states that languages have vocabulary but that this is not enough. 'Languages also have grammar: rules, concepts and procedures which allow you to construct

meanings'. It goes on to state that 'The grammar of geography is its 'big ideas, which help us organise and attach significance to the vocabulary'. It is the 'grammar' of the subject, its ideas, which enable us to generalise, to relate facts to one another, indeed to think geographically.

I like the emphasis given to geographical ideas in the lesson planning framework produced for PGCE students at London University's Institute of Education. There is a separate section in which they note down the ideas being developed. This focuses attention during planning, ensures that geographical ideas are not neglected in the lesson and provides a useful focus for post-lesson discussion. I think it is a good idea for lesson plans to include information on both the 'vocabulary', the geographical facts being introduced in the lesson, and the 'grammar', the ideas being introduced or explored.

- Locational contexts

I think that what is studied in geography lessons should be located and placed within a wider context. Places, regions, countries and continents do not exist in isolation but are interconnected; the location of what is studied in relation to other places is significant. The contrast between the way that TV news programmes and the geography lessons I have observed is striking. TV news programmes always locate the places which are being reported, starting with the globe, then moving in closer and then closer still. For example, reports of the 2011 Japanese earthquake and tsunami were first located on the globe, then within Asia and the Pacific Ocean, then within Japan. The location of Japan was significant not only for possible effects of the tsunami around the Pacific Ocean but also for possible effects of radiation leaks. I have never seen geography teachers use PowerPoint to zoom in like this to what they are studying, to place it in relation to other places or comment on the significance of a place's location. I rarely see atlases, globes or wall maps used. Locational knowledge of continents, oceans, countries, cities, deserts, etc, enables us to place new information into a wider context. I would not argue for the rote learning of this information but students can be expected to know the locations of places they are studying and its significance. If this done for every unit of work, they will gradually build up meaningful contextual knowledge.

Geography subject knowledge and the standards

Two of the 33 Standards for Professional Practice (TDA 2008a) refer to subject knowledge:

Those recommended for the award of QTS should:

Q14 'Have a secure knowledge and understanding of their subjects/curriculum areas and related pedagogy to enable them to teach effectively across the age and ability range for which they are trained.'

Q22 'Plan for progression across the age and ability range for which they are trained, designing effective learning sequences within lessons and across series of lessons and demonstrating secure subject/curriculum knowledge.'

I find that emphasis in evaluating whether PGCE students have demonstrated these standards is on PGCE students' own knowledge and understanding, rather than what happens in lessons. Almost all the verbal and written feedback on lessons is on generic matters, such as classroom management. (Roberts, 2010).

The revised 2012 standards also state that a teacher must have 'secure knowledge of the relevant subject' and 'demonstrate a critical understanding of developments in the subject' but again this emphasises teachers' knowledge and understanding, which is important, rather than classroom practice.

Regardless of what is demanded by the standards I do not think a geography lesson is good unless it includes geographical data, geographical ideas and a locational context.

2. Connecting with students' minds

The emphasis of most planning and teaching is on getting students to know and understand what is in teachers' minds, to learn what they have planned for a unit of work. I think that it is equally important for teachers to get to know what is in students' minds. This is because if teachers are to plan for students to make progress in geography, then they need to know students' current capabilities: what they already know, understand and can do.

- Vygotsky's Zone of Proximal Development

I find Vygotsky's (1962) concept of the Zone of Proximal Development (sometimes referred to as ZPD) useful in thinking about this. He first used the term in the 1920s and 1930s in relation to research he was doing into children's cognitive development. He wanted to find out, not only what the starting point of children's learning was, but the extent to which they could make progress given 'light assistance'. He found that if two children, both with a mental age of 8, were given assistance with some mathematical problems, then one child might be able to solve problems designed for 9 year olds whereas the other might be able to solve problems designed for 12 year olds. He referred to the gap

between what they could already do and what they could do with support, their 'zone of proximal development'. For each child there was a limit beyond which they could not progress at a given time. The key ideas Vygotsky formed from this research have implications for teachers and these are set out in Figure 1.

Figure 1

Vygotsky's key ideas related to ZPD	Implications for teachers
<i>'The only good kind of instruction is that which marches ahead of development and leads it'.</i>	Teachers need to know what students already know, understand and can do, so that they can plan to 'march ahead' of this.
<i>Every child can be expected to progress but 'only within the limits set by the state of his development'.</i>	Teachers need to know how much each individual can progress in a lesson. This might mean setting differentiated objectives rather than common objectives for a class.
<i>'With assistance, every child can do more than he can by himself'.</i>	The teacher has an important role in planning for support and providing support throughout lessons.
<i>'What the child can do in co-operation today he can do alone tomorrow'.</i>	Teachers should stop providing support for particular activities at some stage, so that the students can attempt to work independently.

(Quotations in italics from Vygotsky, 1962, p. 104)

The implication for 'good' geography lessons is, first, that teachers need to be aware of each student's starting point and, second, that they need to plan how to support progress within each student's ZPD.

- Being aware of students' starting points: prior knowledge

To achieve Standard Q25 (b) PGCE students have to teach lessons in which they 'build on prior knowledge, develop concept and processes, enable learners to apply new knowledge, understanding and skills and meet learning objectives.' (TDA, 2008)

The Guidelines to the 2008 standards (TDA, 2008b) expand the meaning of this by referring to building on 'learners' prior knowledge, achievement and experience'. The addition of 'experience' is interesting and suggests two types of prior knowledge: that gained through schooling and that gained from everyday direct and indirect experiences of the world.

As External Examiner I have seen many examples of teachers eliciting the first type of prior knowledge, i.e. what students have achieved or learnt in school. Teachers recap work done in previous lessons and they debrief some activities or whole lessons. Usually recapping and debriefing are short episodes in a lesson and do not really enable the teacher to get into students' minds. I always urged PGCE students to allow a lot of time for debriefing so that they can find out what sense students have made of what they have been learning. I once saw a whole lesson devoted to a very worthwhile debriefing of a public meeting role-play which had taken place in the previous lesson. I have seen some excellent examples of formative assessment of written work in which teachers have paid close attention to what students have already achieved and what they need to do to make further progress. So some attention is paid to 'prior knowledge' as achievement.

On the other hand, as External Examiner, I have seen few attempts to build on prior knowledge based on students' personal geographies gained through their direct and indirect experiences of the world. If teachers are to 'march ahead of development' and work in the ZPD then they need to take account of this too. There is scope for teachers to spend much more time in lessons finding out about students' prior knowledge, understanding and opinions gained from both formal education and from everyday experiences.

- Eliciting what students already know

One way of finding out what students already know is through brainstorming or through the use of spider diagrams. For example, an introductory lesson on the EU could build on what students already know about EU countries and their links with the UK. Details of how this was developed can be found in Learning through Enquiry (Roberts, 2003, pp 124–5) and Figure 2.

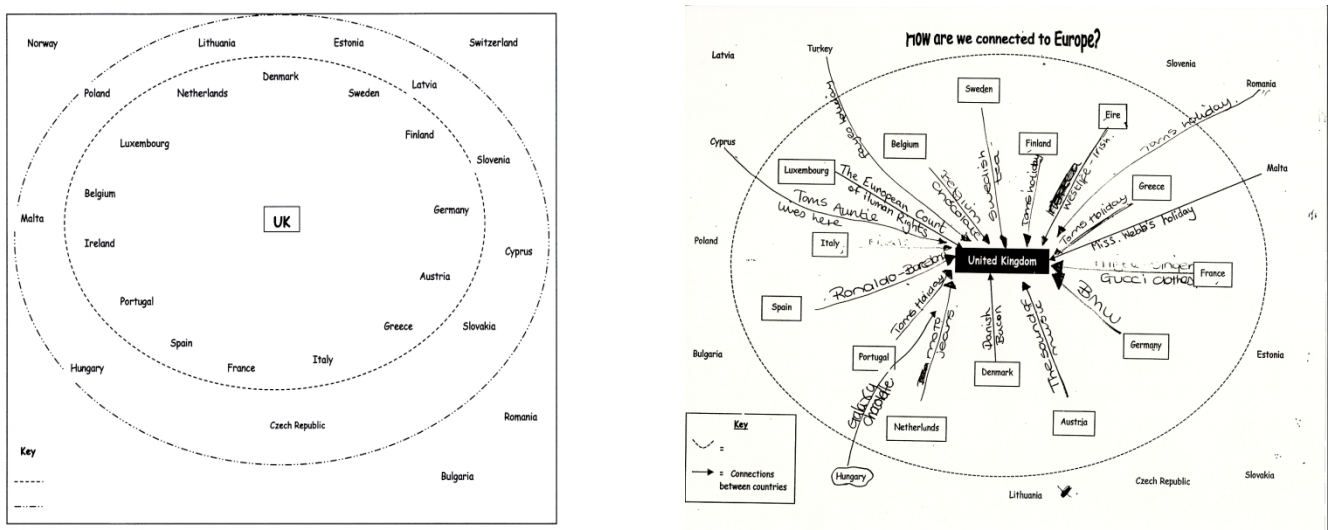


Figure 2: How are we connected to Europe?

From this activity a teacher would find out differences in knowledge between students, which countries were most familiar and most unfamiliar, what kinds of accurate links were known and whether students had any misconceptions about links. When teachers have used this activity they have found that students who are interested in football are able to identify a link with almost every country: e.g. a footballer from that country playing in the Premier League. This activity recognises and values what students already know and can build on it. It is possible to develop this activity in various ways to take students beyond what they already know: to provide information on when countries joined the EU and to find out whether these are the countries that are most familiar or have similar kinds of links; to categorise the links that have been suggested and add to them, etc.

- Eliciting what students already understand

Secondary school students will already have heard about many topics taught in geography, e.g. about volcanoes, tsunamis, floods, the greenhouse effect, famine, nuclear power etc. One way of finding out what students already understand is to ask students, individually or in groups, to represent their ideas in a pictorial diagram. Students could, for example, be asked to produce their own diagram of the greenhouse effect, identifying on it what they are sure about and what they are still unclear about. This activity usually reveals what is misunderstood as well as what is understood and can motivate students to want to know and understand. The right answer culture of schools can make students reluctant to put down what might be wrong, which is why the activity is less threatening if carried out in small groups. If teachers want to connect with students' minds, it is as important to know what they misunderstand as well as what they understand; there needs to be a classroom culture where voicing misunderstandings is as acceptable as giving right answers.

- Eliciting students' opinions and feelings

One way of eliciting students' feelings is through the use of affective maps, on which students plot symbols to represent their feelings towards particular places. Affective maps have been used for eliciting feelings about places within the local town or within the school and its grounds. (Roberts, 2003, pp. 173–174)

- Supporting students' progress within the zone of proximal development

It is important that students are supported to make progress beyond their present capabilities and that what takes place in the classroom is within their zones of proximal development. In 'Thought and

Language' (1962) Vygotsky referred to several types of 'light assistance' that might be given to support students' cognitive development within the ZPD:

- Providing the first step in a problem
- Asking a leading question
- Explaining
- Supplying information
- Questioning
- Correcting
- Making the child explain

Later researchers (Wood, et. al, 1976), using Vygotsky's ideas, referred to his light assistance as 'scaffolding'. They found, from their experimental work with young children, that tutors could scaffold activities through intervention and dialogue by:

- Reducing the number of steps involved in a task
- Helping learners to risk a next step
- Controlling frustration and risk but without creating too much dependency on the tutor
- Demonstrating an idealised version.

Webster et al (1996) investigated and developed ideas about scaffolding in a large scale research project. They found that 'the most powerful determinant of children's learning, the difference that made the difference', was not the activities themselves, but how teachers scaffolded the activities. By scaffolding they meant 'the complex set of interactions through which adult guide and promote children's thinking'. This definition emphasised that scaffolding was much more than teachers simply providing help. It was a collaborative process involving dialogue. They concluded that, 'in order to be good at scaffolding teachers must have a precise knowledge of the characteristics and starting point of the learner, together with a thorough knowledge of the field of enquiry' (Webster, et. al., 1996, p. 151). Geography teachers can scaffold children' learning through:

- Discussion in whole classes, with small groups or with individuals in which attention is paid to what students say and build on it by prompting, probing and questioning
- Demonstrating or modelling part of an activity
- Using writing frames to help with structure and with starting sentences.

3. Opportunities to make sense of geography

I think that in every geography lesson students need opportunities to make sense of new information. The importance I attach to this is rooted in constructivism, the most widely accepted theory of learning. The central idea of constructivism is that people make sense of the world through the active construction of knowledge rather than from receiving knowledge fully formed from external sources (Barnes and Todd, 1995). From the earliest age children try to make sense of what they encounter in the world and have the capacity to use information from various sources to produce their own constructs of the world. I can illustrate this with something Naomi, my granddaughter, said to me when my daughter's family were living with me. Naomi's father is German and speaks to her only in German. He has a German father, a German brother, and a French-speaking Mauritian mother. One day I said something to Naomi in German. 'You can't say that Grandma', she said. 'Why not?' I asked. She replied, 'Because only men speak German.' Clearly, nobody had ever said this to her. At the age of three she had put together what she knew of the world and reached her own, albeit wrong, conclusion.

By the time students reach secondary school they have developed a wide variety of mental constructs or ways of seeing the world and understanding it. Some of these might be naïve or muddled and might interfere with new ideas that geography teachers want to introduce. The central ideas of constructivism are related to these constructs:

- How we see and understand the world depends on our existing ways of thinking
- Each individual sees and understands the world differently as each individual's experience of the world is different.
- In constructing new knowledge we are not adding separate new 'bits' of knowledge to what we already have; we have to reconstruct our old knowledge in light of the new knowledge
- Our constructions of the world are not fixed but are being modified continuously, through new experiences

These ideas have implications for geography teachers. If students are to develop understanding as well as accumulate information then geography teachers need to allow time for students to explore new information and to relate it to what they already know.

A right answer culture can prevent students from trying to make sense of information. Pat Jones (1981), a teacher of English and a Deputy Head, experienced what sometimes happen when he was asked to

teach some science lessons using the worksheets provided. He wrote about a worksheet containing the following information.

- Most plants contain a green colouring called chlorophyll.
- This chlorophyll enables them to make their own food by photosynthesis.
- Yeast gives off alcohol when it respire"

Students had to complete the worksheet by filling the gaps in sentences, all the answers to which were words underlined in the text. He found that the students always got the answers right, but that when he questioned them about it they had no understanding of what they had written. He found that ' a right answer can pass from one side of a worksheet to another without being understood or even passing through the brain on the way.' He commented: 'We can't just pass down information, tell them to absorb it raw, ready for regurgitation in a later test, and expect them to learn anything. To learn something, students need to take that piece of information and build it into their own picture of the world. The information needs to pass into and around their consciousness. Only when it becomes part of the pattern in their heads does it become theirs.'

His experience resonates with my own. I have often been in lessons where I have watched students writing answers to questions and asked them what they were going to write for the next question. Frequently, if they were a bit stuck, they would say 'Oh just tell me what to write' as if the purpose of geography lessons was to get correct answers in an exercise book rather than to learn anything. It is important that geographical information 'goes through the brain' and that students have time 'to pass it into and around their consciousness'. Students make sense of the world through language: through talking and writing.

- Discussion

In whole class discussion the opportunities for individuals to sort out their ideas through talk are inevitably limited. Small group work, on the other hand, if well planned, can give students chance to collaborate with others in using geographical data, to reach conclusions or make judgements. It is easier for students to make tentative suggestions and explore their ideas in small groups than in the whole class. Group work activities which help students to make sense of geographical data include:

- sorting data into categories, e.g. indices of development
- ranking information e.g. the importance of different possibilities for future developments in a town

- preparing for a role-play, e.g. to decide on types of energy the UK should develop
- identifying links between concepts on a concept map, e.g. the nature of the links between different concepts related to health
- reconstructing information in another form, e.g. using a text on desertification to produce a diagram

The only lessons I have observed in which student rather than teacher talk was dominant have been role-plays of public meetings in which students have had to argue a case for or against a particular decision, e.g. the location of a new supermarket, proposed developments in the Tropical Rain Forest, building a new dam. I have found that in well-run role-play lessons, students use evidence, formulate arguments, question each other, and begin to make sense of an issue through talk.

- Written work

The process of writing can help us make sense of geography. It is not simply a matter of planning what to write and then writing it. Usually, during the process of writing, we continue to sort out information and ideas and to make links between what is included.

Research has shown that little extended writing takes place in geography lessons (Webster, et al., 1996, Butt, 2001), perhaps because the demands of GCSE and even A Level examinations are limited. Many examination questions require students to write single sentence or single paragraph answers on particular aspects of what is being examined. Sometimes they are expected to write more but the argument is already structured for students by the use of separate sub-questions. These limited forms of writing do not give students sufficient opportunity to sort out information, structure their thinking for themselves, reach conclusions and make judgements.

As External Examiner I rarely see students being expected to write much in lessons although there are several types of writing through which they can make sense of geography.

Discursive writing can be used to analyse complex situations involving both human and physical factors or involving causes, short term and long term effects. It can involve discussion of issues on which there are several viewpoints to be presented. It can make use of a wide variety of evidence including statistics, text, maps and photographs. This kind of writing involves sorting out evidence and ideas, structuring an argument, making links between different bits of information, using examples.

Another form of writing, which students might find easier to structure, is report writing e.g. of findings of a questionnaire survey or of a fieldwork investigation.

There are other genres of writing that students might encounter in their everyday lives which offer scope for them to make sense of what they are studying. These include:

- Display board information e.g. about a National Park
- Tourist brochure, e.g. promoting a particular destination
- Letters, e.g. to a local paper or to an MP, e.g. about a local issue
- Newspaper reports, e.g. about a flood, its causes and its effects

Even the most experienced of writers find writing difficult, yet students are often expected to write with little preparation and often for homework when teachers cannot give them the necessary support.

During lessons teachers can support students by:

- Discussing or negotiating with the whole class how to structure the writing, what to include and what to exclude.
- Presenting students with examples of the type of writing required
- Modelling the writing
- Devising writing frames designed for a particular writing task.
- Asking students to producing rough drafts for discussion
- Making the criteria by which the writing is going to be evaluated explicit
- Through asking students to evaluate the work of their peers.
- Through formative assessment in which teachers make students aware of what they have done well and what they need to do to improve.

The standards and 'making sense'

Making sense seems to me to be the heart of what learning geography is about, yet there is no real emphasis on this in the standards. The only standard which relates to it is:

25 (b) 'build on prior knowledge, develop concepts and processes, enable learners to apply new knowledge, understanding and skills and meet learning objectives'

As External Examiner I have rarely seen lessons in which much time is allocated to the kinds of discussion or written work that enable students to make sense of geography for themselves.

Conclusion

I don't think we can judge lessons to be good by judging the separate elements: lessons need to be judged as a whole. For a geography lesson to be good, something has to happen inside students' minds. There has to be a connection between the new geographical knowledge that the teacher wants to introduce and what the students already know.

I recognize that tutors, mentors and PGCE students cannot ignore standards which have to be demonstrated for students to achieve QTS. I am not saying that the separate elements are not important. I think it is possible, however, to evaluate geography lessons as a whole at the same time as working towards achieving required standards. I am very much aware, however, that what makes a lesson good is a matter of professional judgement. I agree with Castree (2005) when he writes:

'The what, the how and the why of teaching is always up for grabs. There is no one correct set of things that students should know, there is no one 'proper' way of learning; there are no 'self-evident' goals of education. Instead there are only ever choices about what to teach, how to teach and to what ends.'

My own professional judgements are rooted in the choices I have made in my professional career in secondary school teaching and in teacher education and in what I have come to value. This article is based on those choices and beliefs. It is based on the importance I attach to geography as a subject and my firm belief in what it can offer to young people's education, my acceptance of constructivism as a theory of learning and in the value I attach to an enquiry approach to learning which would include promoting an investigative approach to geographical knowledge and providing opportunities for students to make sense of geographical data for themselves. My judgements differ from judgements made using the required standards in that they apply to lessons as a whole based on professional judgements and discussion rather than the separate externally determined elements.

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