Margaret Roberts

Geographical enquiry

Research has revealed different views on the meaning of 'geographical enquiry', and why it is important. This article suggests that its meaning is related to why it is important. Three reasons for advocating an enquiry approach are suggested in relation to how we think about geographical knowledge, how we think about students' role in constructing knowledge and how students are motivated to learn. Learning through enquiry is contrasted with transmission teaching in which students have a more passive role.

Introduction

Through my teaching and my research I have found that what different people understand by geographical enquiry varies considerably. Also, although 'enquiry' has been a statutory part of the Geography National Curriculum since 1991, many are unsure why it is thought to be important. In this article I want to outline the variations in understanding I have found through my research, to examine reasons why I think geographical enquiry is important, and finally to explore some of the differences between the 'transmission' and 'enquiry' approaches to teaching geography.

Understandings of geographical enquiry: findings from research

In 1996 I carried out two pieces of research investigating enquiry in the Geography National Curriculum (GNC). First, I interviewed, individually, six members of the advisory group involved in the construction of the 1995 GNC, and secondly, I interviewed geography teachers in six different schools.

The advisory group were in agreement that enquiry should be included in the geography curriculum. However, there were some interesting differences in understanding about what this actually meant. Some understood enquiry as an approach to learning that applied to absolutely everything studied; some thought more in terms of distinct 'enquiries'; and one person thought that an investigative approach 'should not be the only way you teach things'. However, the group had concerns about whether the term 'enquiry' would have been acceptable to the Thatcher government, either because the New Right associated the word with public enquiries and controversial issues, or because it suggested how geography should be taught and this was beyond the remit of the National Curriculum legislation (Education Reform Act, 1988). Some thought that the word 'investigating' might have more 'hard-nosed credibility' because it was associated with science.

When I conducted my teacher interviews, I also studied their schemes of work, assessment items and their students' work (Roberts, 1998). Enquiry was commonly associated with fieldwork, independent learning and a sequence of investigation. However, each teacher attached very different degrees of importance and different meanings to each of these, and this in turn had an impact on classroom practice. Where enquiry was strongly associated with fieldwork, e.g. 'when they go out', there was little enquiry work in the classrooms. The extent to which enquiry was associated with independence varied from 'doing a bit on your own' to 'The nearer you get to handing the whole learning process over to the kids, the nearer you are to true enquiry-based learning.' How teachers carried out sequences of investigation varied too. One department emphasised scientific method and hypothesis testing ('They have to set a hypothesis'), while another put emphasis on qualitative data, values and attitudes ('We don't do much number-crunching').

Three things became clear to me from this research. Firstly, the word enquiry has connotations from its use in everyday life and in other subjects; for some, it is not a neutral term. Secondly, how people understand geographical enquiry is influenced by their own personal biographies, the ways they have encountered enquiry through their study of geography, their teaching and involvement in projects. Thirdly, because the word is used and understood differently, it seems impossible to define the meaning of 'geographical enquiry' precisely and fix it. Enquiry is a word whose meaning has developed, and will continue to develop, through the ways in which it is used and enacted in practice. What I can write about in this article, therefore, is what I personally understand by geographical enquiry, but this is dependent on why I think geographical enquiry is important.

Why I think geographical enquiry is important

My views on geographical enquiry are informed partly by a constructivist view of knowledge. This means that I do not think of geographical knowledge as something simply waiting to be collected 'out there' in the field. Instead I think that what is 'collected' and how it is represented is shaped by the questions geographers ask, how they set about answering them and their existing understandings or imaginations (see Figure 1). Also, as Massey (1995) states, 'Our knowledge of the world and how we make sense of it is always from a certain standpoint, a certain location. We see it from here rather than from there'. Geographers understand the world and how it works in different ways, producing 'a diversity of geographical knowledges' (Castree, 2005). I am not arguing that all constructions of geographical knowledge are equally valid, but that all constructions of geography are provisional and open to interpretation and challenge.

I also accept a constructivist theory of learning. I believe that geographical knowledge cannot simply be 'delivered' to students. Students need to be actively involved in making sense of it for themselves. This involves connecting new information and ideas with what they already know and understand (Barnes and Todd, 1995). So the sense that students make of what they study will depend on the connections they make, and this varies considerably as each individual brings to the classroom different direct and indirect experiences, and different ways of thinking about the world. The role of language and talk between teacher and student is crucial in this process of making sense (Vygotsky, 1962; Webster *et al.*, 1996; Mercer, 2000). As Mercer wrote:

> *Language is the prime tool of teaching-and-learning. Education happens in conversations where the combined mental resources are focused on developing the learner's understanding.*

Figure 1: Seeing different things in the same landscape or place can be illustrated with an analogy. These patterns were created from exactly the same base pattern (or landscape). My two daughters with their different imaginations identified different patterns within it.

Another reason why I think geographical enquiry is important is related to motivation. It seems important that the questioning attitude that young children have about the world is fostered throughout the years of schooling. I believe that students will learn more if they have been made curious about what they are about to learn and are encouraged to continue asking questions. The notions of key questions was introduced to geography by the Schools Council Projects of the 1970s and 1980s. Before this, Bruner stressed the importance of questions in 'Man: A Course of Study', an innovative course developed in the 1960s (Bruner, 1966). The course was framed by key questions (What makes human beings human? How did they get that way? How can they be made more so?) and its aims were expressed as a set of principles, the first of which was: 'to initiate and develop in youngsters a process of question-posing'. I think that key questions are important to frame learning.

My own understanding of geographical enquiry

I think of geographical enquiry as an approach to learning that accepts that knowledge has been constructed and prioritises the need for students to make sense of things for themselves – an approach which could include individual projects. I do not see it as an optional approach, to be used occasionally.

Although geographical enquiry is often associated with sequences of skills, I believe that these skills need to be developed and refined in specific contexts rather than in discrete exercises in a skills-based curriculum. I have identified (Roberts, 2003) four important aspects of enquiry:

- creating a need to know
- using data
- making sense
- reflecting on learning.

For each of these aspects I will explore the meaning of enquiry by contrasting it with a transmission approach to teaching.

Creating a need to know

In a traditional transmission approach to teaching, the teacher decides what the students are going to learn and then what the learning outcomes will be by presenting lesson objectives at the start of the lesson. This assumes that it is possible for all students to achieve the same objectives in spite of the different knowledge, experiences and skills they bring to the lesson.

In contrast, an enquiry approach puts an emphasis on questions and encourages curiosity. At the start of a lesson, instead of identifying the end-points of learning, an enquiry approach identifies the starting point: a question to frame what is being studied. I think it is useful for the big questions that frame units of work to be planned by the teacher. Some GCSE and A-level specifications provide key questions to frame the content but it is less common to find key stage 3 schemes of work structured in this way. Here we can learn from history teaching where for many years it has been common practice for 'rigorous, challenging and intriguing' historical questions (Riley, 2000) to be used for planning 'quality learning'. Riley characterises a good enquiry question as one that captures interest and imagination, that places a historical concept or process at the forefront of students' minds, and that results in a tangible, lively, enjoyable activity. Among many examples of questions he suggested for structuring key stage 3 were: 'Why did it take so long for women to get the vote?' and 'Why do historians disagree about the causes of the Second World War?' There is scope for geographers to identify similarly probing and challenging questions as a framework for key stage 3 and to involve students in devising subsidiary questions.

In an enquiry approach to learning, it is important that the big questions become the students' own. This involves provoking curiosity, possibly by setting up some puzzling situation or problem, or through a stimulus (Davidson, 2006). It might include getting students involved in planning the curriculum (see Young People's Geographies Project, *www.youngpeoplesgeographies.co.uk*). It might involve giving students a choice, e.g. which volcano to investigate or which countries to 'visit' in a Pole to Pole project (see p.60 in Roberts, 2003. Extract available on the TG pages of the GA website).

Using data

In a transmission approach, data are selected and presented by the teacher as unproblematic,

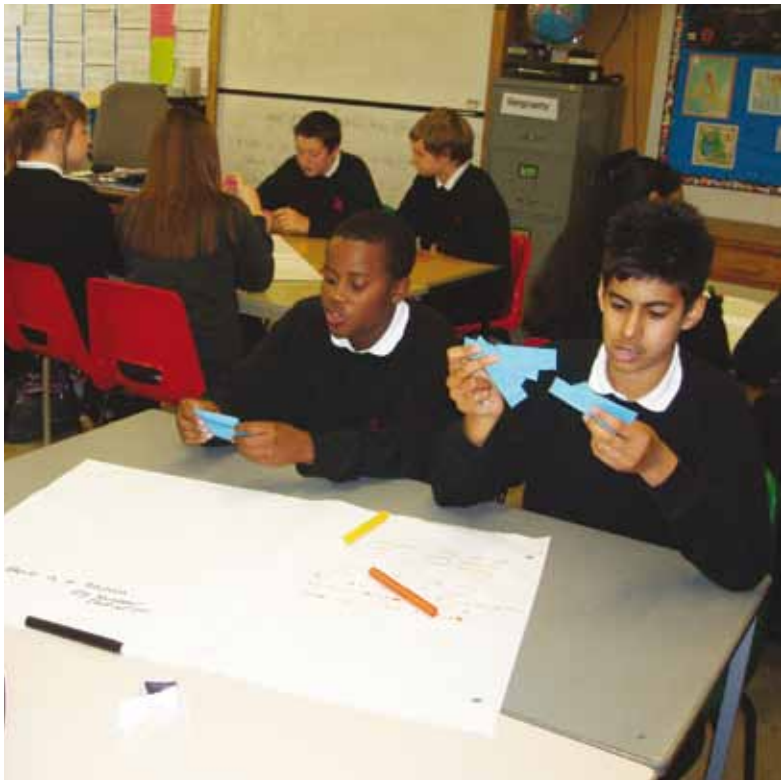

Figure 2: Students working to categorise data.
Photo: Gemma Caudrey, Littleover Community School.

authoritative information to be accepted, studied and possibly remembered. Textbooks often provide data that has already been processed into lists of key points, or categorised in some way, e.g. into lists of advantages/disadvantages. This denies students the opportunity to work this out for themselves.

In an enquiry approach, students are expected to analyse, interpret and challenge data. Students are made aware that data has been selected, either because they deal with selection problems themselves in the field, library or at the computer, or through some activity, e.g. dealing with conflicting data on the same topic. Also, in an enquiry approach students learn to handle data presented in a relatively unprocessed form, so that it is the students rather than the teacher or textbook author who categorise data into advantages/disadvantages etc. (see Figure 2).

Making sense

In a transmission approach, the teacher makes sense of data for the students. The teacher describes, explains, analyses and interprets, often with the help of a PowerPoint presentation. The teacher might make links between the new information being presented and what has been taught and learnt in geography previously. The teacher tends to do most of the talking, and questions focus on whether students have grasped what is in the teacher's mind.

In an enquiry approach, opportunities are provided for students to make sense of data for themselves. First, they need time and space to relate new information and ideas to what they already know; they need time to think, rather than being hurried along by a need for 'pace'. Second, they need to be introduced to the big ideas of geography that will help them to make sense of new data – ideas such as sustainability, interdependence, globalisation. The role of classroom talk is essential in helping students make sense. This might include whole-class discussion or role-play. It might involve students working in small groups, where activities might include categorising, ranking or evaluating pieces of information, or making links on spider diagrams and concept maps, or developing arguments for or against something (see Figure 3). Where frameworks such as the 5Ws and the Compass Rose are used, students are made aware that these frameworks do not simply produce 'correct' answers, but are a way of structuring information and focusing on different aspects of a topic. I think there is a need for new frameworks to help students with data, partly to extend the range of questions they consider to include the moral aspects of geography, 'e.g. What ought to happen?' and 'Who should be responsible?', and partly to help students develop different ways of thinking about sustainability, globalisation etc. Making sense might involve extended writing, preceded by class discussion and some draft writing. The key point about all these possible activities is that they require students to study the data and make links for themselves, supported in developing their understanding through conversations with the teacher and each other.

Reflecting on learning

In a transmission approach to teaching, success is determined by the extent to which the objectives have been achieved. When debriefing, the emphasis is on whether the student has learnt what the teacher had planned.

In an enquiry approach to teaching, the teacher returns to the questions that framed the enquiry and explores with a class the extent to which the questions have been answered. When debriefing, the emphasis for the teacher is on trying to understand what has gone on in the students' minds, what sense they have made of what they have studied, and whether they have had to rethink what they knew before. An enquiry approach is more likely to 'lead the student to unanticipated rather than predicted outcomes' and this, according to McKernan (quoted in 2009 in the GA's manifesto for geography, *A different view*, which can be downloaded from *www.geography.org.uk/adifferentview*) would make the experience 'truly educational'.

Conclusions

It might seem surprising, after the assertions I have made in this article, that I agree with Castree when he wrote:

> *'The what, the how and the why of teaching is always up for grabs. 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.'* (Castree, 2005).

In this article I have set out my own choices and recognise that they are shaped by my beliefs about the nature of knowledge and learning, and by my educational values. They have been influenced by my experiences of teaching geography and observing lessons, and by my research and my reading. They are, like all views, open to challenge and debate.

What I have set out are ideals which I am fully aware might be difficult to achieve in practice. The school curriculum is strongly influenced by current ways of thinking about education that emphasise objectives, accountability, quantitative evidence and pace in

Figure 3: Students working to make sense of data.
Photo: Gemma Caudrey, Littleover Community School.

lessons. Schools and geography departments are under pressure to produce results which show up in statistics and league tables. We live in a culture where right answers are valued by the media and popular culture. Geographical educational practice is often a compromise between what we want to do and what is possible within the constraints under which we operate. I agree, however, with the Geographical Association's manifesto (2009) when it states that 'Designing a curriculum is not just a technical matter – it is a moral concern.' So, even within the current educational climate, I would still strive to work for an education that encourages students to challenge authoritative views, to be critical of what is presented to them and to question constantly. I would continue to argue for an education which helps young people learn to make sense of the world and their own experiences within it through their active engagement in learning geography. | **TG**

Online resources

Go to *www.geography.org.uk/tg* and click on 'Spring 2010'.

- 'Pole to Pole activities' extract from Margaret Robert's book *Learning through enquiry* (2003)

You can buy the whole book from our online shop:

www.geography.org.uk/shop

References

Barnes, D. and Todd, F. (1995) *Communication and Learning Revisited*. Portsmouth, NH: Boynton/Cook.
Bruner, J. (1966) *Towards a Theory of Instruction*. Cambridge, MA: Harvard University Press.
Castree, N. (2005) *Nature*. London: Routledge.
Davidson, G. (2006) 'Start at the beginning', *Teaching Geography*, 31 (3), pp. 105–8.
Geographical Association (2009) *A different view: a manifesto for the Geographical Association*. Sheffield: Geographical Association.
Massey, D. (1995) 'Introduction' in Allen, J. and Massey, D, (eds) *Geographical Worlds*. Oxford: Oxford University Press for the Open University.
Mercer, N. (2000) *Words and Minds: How we use language to think together*. London: Routledge.
Riley, (2000) 'Into the KS3 history garden: choosing and planting your enquiry questions', *Teaching History*, 99, pp. 8–13.
Roberts, M. (1998) 'The nature of geographical enquiry at key stage 3', *Teaching Geography*, 23 (4), pp. 164–7.
Roberts, M. (2003) *Learning through Enquiry*. Sheffield: Geographical Association.
Vygotsky, L. (1962) *Thought and Language*. Cambridge, MA: The Massachusetts Institute of Technology Press.
Webster, A., Beveridge, M. and Reed, M. (1996) *Managing the Literacy Curriculum*. London: Routledge.

Margaret Roberts was President of the Geographical Association from 2008–9 and the Editor of *Teaching Geography* from 2006–2008.

E-mail: *margaret.roberts20@btinternet.com*