

Think Piece – Concepts in geography

Liz Taylor

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This paper is adapted from one of the 'Think Pieces' written as part of the GA's GTIP project with the Teacher Development Agency in 2008/9. The project intention was to develop geography materials for PGCE courses, to inform and to encourage reflection on a range of themes and issues in geography education. In this Think Piece, Liz Taylor, then Lecturer in Geography Education at the Faculty of Education, Cambridge University, reviews some current thinking on concepts within geography. This leads on to a consideration of how the act of reflection on the concepts we feel are at the core of the discipline can be a stimulus to reviewing practice in medium and long term planning.

Introduction

Medium term plans should provide sequences which are engaging, challenging and rigorous in their geography and that they are ordered in such a way to enable progression within pupils' geographical learning over time. If we are to avoid schemes of work which are just accumulations of 'content' (Leat 2000, DfES 2005, Jackson 2006), one way forward is to think carefully about the 'big concepts' of geography which can be used to shape that content into rigorous and focussed geographical learning. The level of sophistication with which pupils handle these big concepts can then be a focus of progression in geographical learning.

Which are the big concepts in geography?

This is a good question, and one which different people have answered in different ways at different times for different reasons! It can also be useful to ask what a concept actually is. One definition is: 'A mental representation, idea or thought corresponding to a specific entity or class, which may be either concrete or abstract' (Colman, 2001, pp.152). So basically, a concept is a classifier, something that helps us make sense of a very complex world. Our shared concepts help us communicate, so if someone says 'farm' we have a basic idea what they're talking about, even if our idea 'farm' might be a bit different to theirs. Some concepts may be judged to be 'bigger' than others, in that they are more abstract, or include a sub-set of 'smaller' concepts (e.g. biome includes rainforest and desert). There is, however, only a certain level of agreement on which concepts are 'key' within geography.

Table One shows various geographers' views on important concepts within geography. These sets were suggested by their different writers at different times for different purposes. So, for example Holloway et al's (2003) list structures an undergraduate reader on geography, whereas Leat (1998) was working within the context of his book of learning strategies designed to encourage thinking skills within classroom geography.

- What concepts do the lists have in common and why do you think this might be?

Table 1: Some suggested sets of important concepts in geography (Liz Taylor)

Leat (1998)	Geography Advisers' and Inspectors' Network (2002)	Rowley & Lewis (2003)
Cause and effect Classification Decision-Making Development Inequality Location Planning Systems	Bias Causation Change Conflict Development Distribution Futures Inequality Interdependence Landscape Scale Location Perception Region Environment Uncertainty	Describing and Classifying Diversity and Wilderness Patterns and Boundaries Places Maps and Communication Sacredness and Beauty
Holloway et al (2003)	Jackson (2006)	UK 2008 Key Stage 3 curriculum (QCA 2007)
Space Time Place Scale Social formations Physical systems Landscape and environment	Space and place Scale and connection Proximity and distance Relational thinking	Place Space Scale Interdependence Physical and human processes Environmental interaction and sustainable development Cultural understanding and diversity

The list of key concepts in the 2008 National Curriculum was authoritative at the time and developed from the 2000 National Curriculum geography Programme of Study (DfEE/QCA, 1999) in which the concepts of place, space, process, interdependence and people-environment interaction were clearly evident within sections on knowledge and understanding of places, patterns and processes, environmental interaction and sustainability.

Is a division between substantive and second order concepts helpful?

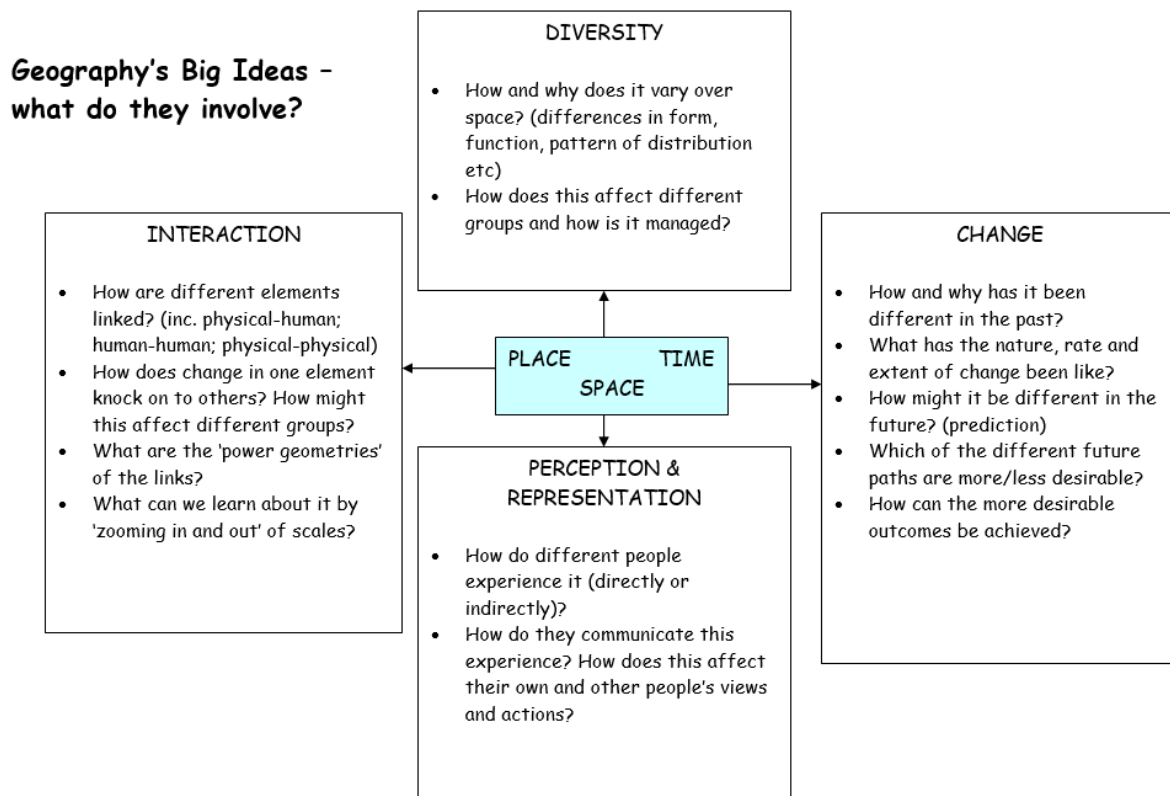
So how can we use concepts to inform and sharpen our medium term planning? There are different ways of approaching this. One way is to consider the list of key concepts and to think how they underlie the schemes of work we already operate with, or new ones that we're thinking about. Some concepts, such as place and space are so 'big' that they are likely to underlie every scheme of work in geography.

Another option, which I've found helpful, is to think about two groups of concepts – substantive and second order (Lee 2005). Substantive concepts refer to the substance, or content, of the discipline, so for geography this group might include field, power, meander or place. However, second order concepts are the ideas used to organise the content and to shape questions within a discipline. The

intersection of substantive content and second order concepts is where the discipline of geography is created. Being applicable across all the content areas, second order concepts are thus likely to be a much smaller group.

My suggestions for second order concepts in geography are diversity, change, interaction and perception & representation.

Diagram 1: Geography's Big Ideas.



Diversity relates to our focus on a complex and varied world - places and environments are diverse between and within themselves (think of the diversity of environments within one country, or even in your school!). Doreen Massey (2005) suggests that without multiplicity, there would be no space. Diversity in elements such as quality of life may lead to concerns about inequality, which may lead to conflict. How can people manage this? Such a view of diversity may well be helpful to see the latter within a broader context of diversity in geography.

Change is crucial as a driver within physical geography (as seen in processes such as coastal erosion) and human geography, as seen in issues such as urban redevelopment, or population growth. Managing change is a key aspect of geography - we learn from past changes and predict and manage future ones. Thus time (the dimension of change) could be seen to be as important in geography as place and space.

Interaction is closely linked to change. Again, in both physical and human aspects of the subject, geographers want to find out how things are linked together and how one aspect affects another. In human geography, it is not enough just to establish how and why people or countries are interlinked; we also want to know about the power relationships involved - the power geometries as Massey puts it (Massey 2005). Interaction occurs both within and between physical and human aspects of the world.

When we want to foreground the way that different elements 'need' each other, the term interdependence is used.

Perception & representation concern issues of how people think about the world and how they communicate that thinking to others. At school level, this has been explored in ideas of sense of place and also in geographies of tourism and development. How people experience the world, both directly and through the media, affects their actions within it, which affects the lives of others.

How can we use second order concepts within medium term planning?

Second order concepts are valuable when medium and long term planning because they can help us shape sets of content into rigorous geography. Over the medium term, a big idea can be used to drive an enquiry sequence, governed by an enquiry question and resulting in a substantial outcome activity which answers the enquiry question. To unpack that a bit:

An **enquiry sequence** is a set of four-five lessons where pupils are building up the knowledge, understanding and skills to answer a particular enquiry question. This question is introduced near the start and the pupils are aware of where they're 'going' all the way through the sequence - this helps them know why they're doing what they're doing - it is not just 'a lesson on...' but it is a journey towards solving a puzzle or constructing an answer.

This also helps the teacher to focus carefully on planning for progression - seeing how each activity builds on the next then the next. A set of four-five lessons may be a bit shorter than the sequences of work geography teachers are accustomed to planning, but it is hard to keep shape and focus in a longer sequence - it tends to turn into 'all we might need to know about...'. However, if a shorter sequence isn't felt to be sufficient on one topic, it is always possible to follow on with another focussed sequence driven by a different big idea. When long term planning, the shorter enquiry sequence building block gives more flexibility.

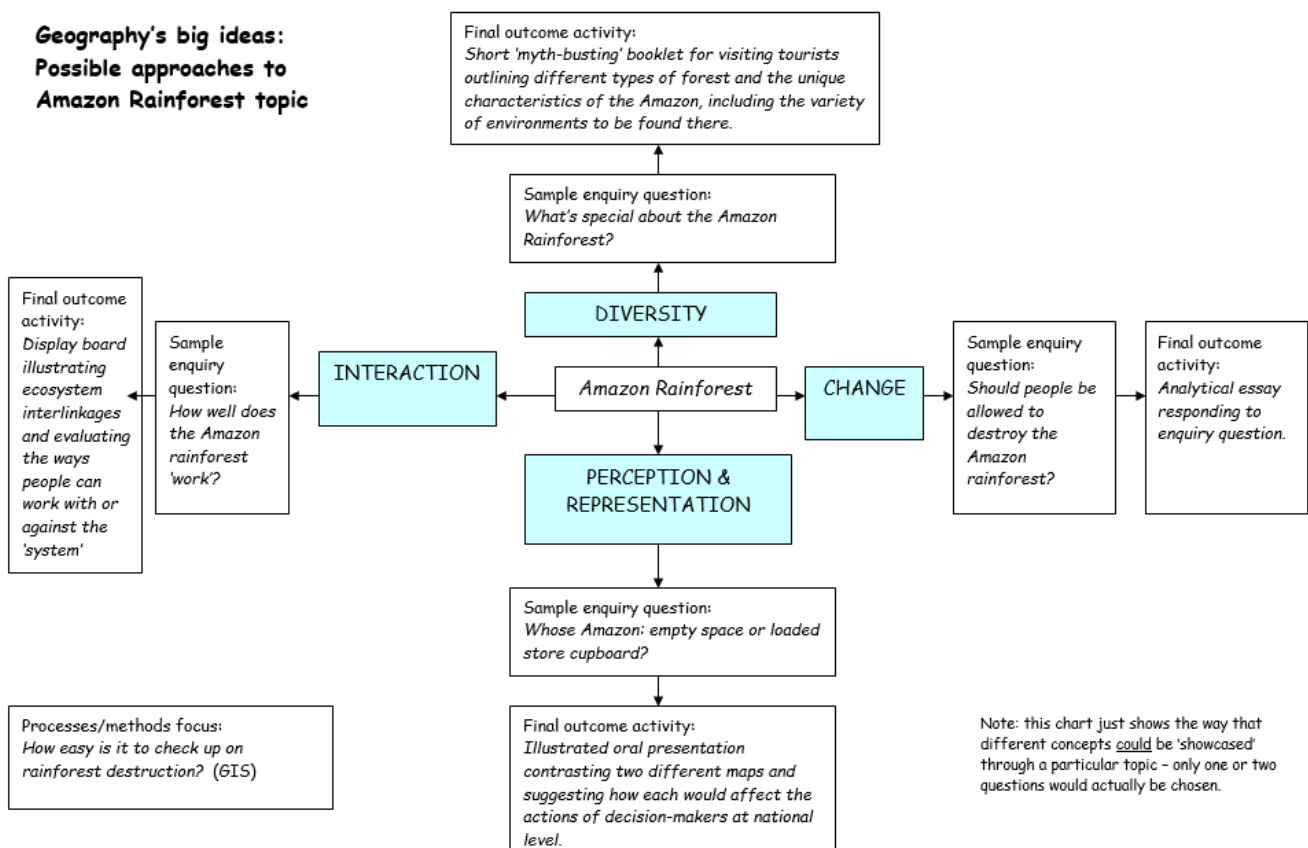
A good **enquiry question** has both 'pith and rigour' - that is it is engaging, making you want to answer it, and gives opportunity for careful and challenging development of those pupils' geographical learning (see section 2.1 in Taylor 2004). An example might be 'Should people be allowed to destroy the Amazon rainforest?'. Good enquiry questions will set up issues or puzzles which can be unpacked in the enquiry sequence (for example the word 'allowed' in this question gives opportunities to think about who the Amazon 'belongs' to and who should have a say in what happens to it).

Outcome activities may take many forms with which we are familiar - the essay, presentation, display board, booklet, talk etc. The key thing is that they are not bolt-on extras, assessment after the main scheme of work has been finished, but integral parts of the enquiry sequence, often being built up step by step through each lesson. It is possible to build in peer or self-assessment at a draft stage, providing feedback at a point where something can be done about it, tying in well with the AfL agenda. Whatever the form of the outcome activity, the key thing is that the enquiry question will have been thoroughly explored and answered by pupils within the sequence.

The example of the Amazon Rainforest topic in Diagram 2 develop this thinking further and give examples of how a focus on a different second order concept will lead to a different 'pathway' through a geographical topic. It is important to stress that learning in each sequence will always bump into other second order concepts, and of course substantive concepts will also be important (e.g. rainforest, ecosystem, deforestation). So the aim isn't to produce a sequence which only involves interaction, but you may find your planning is sharper and more focussed if the sequence is driven by one second order concept in particular.

All sequences will involve knowledge-building on the particular substantive topic, asking questions such as 'where is it?' and 'what is it like?'. An emphasis on big ideas in no way means that detailed knowledge is no longer important. Indeed such knowledge is vital if pupils are going to build up sufficient expertise to answer the enquiry question at a good level. Similarly, in some enquiry sequences, you will want to have a particular focus on processes of enquiry - how geographers find out about the world, perhaps using maps, GIS or fieldwork. Additionally, not all enquiry sequences will involve a question set by the teacher - over time, we must also provide scaffolding for pupils to set and refine their own questions, helping them to become more independent in the process of enquiry itself

Diagram 2: Geography's Big Ideas: Amazon Rainforest topic



Liz Taylor 27.11.07

Some ideas for enquiry questions – Amazon Rainforest

Each question is designed to 'showcase' a certain big concept. This isn't to say that activities in that enquiry sequence won't develop thinking around other concepts too; it is just a matter of focus. Which concept in particular will drive your planning and shape the student's learning? Which one will help you choose which activities to include and which to leave out this time? I've found that foregrounding one concept in this way really sharpens up my thinking, giving more focus and direction to the sequence. Ideally, enquiry questions should have both 'pith and rigour' (i.e. be both well-phrased engaging questions that student want to answer and carefully designed to draw out high quality geographical learning). See Re-presenting Geography section 2.1 for more details about this. Formulating really good enquiry questions is not easy to do – try starting from rigour (geography teachers are already good at

this), then moving to pith! This isn't to say that all questions should be teacher-formulated at all, but these ideas apply to those that are.

DIVERSITY

- What's special about the Amazon rainforest?
- Amazon Rainforest: an 'unbroken green carpet'?
- Tribal life: the past or the future?
- What can be learned from the Yanomami? (cultural understanding focus)
- How could you live in the Amazon Rainforest?
- Why do so many species live in the Amazon? (a bit lacking in pith, this one – can you make it better?)

CHANGE

- Should people be allowed to destroy the Amazon rainforest? (see Re-presenting Geography section 2.2)
- Will the Amazon Rainforest still be there in 2010?
- How did the car change the Amazon? (focus on the rubber boom)
- What should happen to the Amazon?
- Trees or Televisions? (see Re-presenting Geography section 2.3)

INTERACTION

- How well does the Amazon 'work'?
- Who should decide the Amazon's future?
- Can the Amazon's resources be used sustainably? (bit lacking in pith, this one – can you make it better?)
- Would nature reserves work in the Amazon? (scale focus)
- Should we buy chewing gum/hardwood furniture/Brazilian beef....?
- Why is the Amazon rainforest there?

PERCEPTION & REPRESENTATION

- Whose Amazon: empty space or loaded store cupboard?
- Who does the Amazon belong to?
- Amazon Rainforest: 'an impenetrable green hell'?

PROCESSES/METHODS

- How easy is it to check up on rainforest destruction? (GIS focus)

What about long-term planning?

For long term planning, an explicit focus on concepts in general and second order concepts in particular gives a very helpful opportunity for exploring progression. In what ways might pupils 'get better' in their thinking about change or interaction in geography? How might they link up their growing understanding of diversity from physical to human geography topics? What opportunities can we provide for them to develop an increasing sophistication in their understanding of the way people perceive the world and represent it to others?

The advantage of focussing on such concepts when theorising progression is that it gives a central place to geography, rather than to generic cognitive skills (see Lee & Shemilt 2003 for an interesting exploration of these ideas within a history teaching context).

References

- Colman, A. (2001) *Oxford Dictionary of Psychology*, Oxford: Oxford University Press.
- Department for Education and Employment / Qualifications and Curriculum Agency (1999) *The National Curriculum for England: Geography*, London: HMSO.
- Department for Education and Skills (2005) *14-19 Education and Skills (White Paper)*, London: HMSO.
- Geography Advisors and Inspectors Network (2002) *Thinking about the future*, unpublished handout.
- Holloway, S., Rice, S. and Valentine, G. (Eds.) (2003) *Key concepts in geography*, London: Sage.
- Jackson, P. (2006) 'Thinking geographically', *Geography*, 91 (3), pp. 199-204.
- Leat, D. (1998) *Thinking through geography*, Cambridge: Chris Kington Publishing.
- Leat, D. (2000) 'The importance of 'big' concepts and skills in learning geography', *Issues in geography teaching* (Eds, Fisher, C. and Binns, T.), London: Routledge Falmer, pp. 137-151.
- Lee, P. (2005) 'Putting principles into practice: understanding history', *How students learn* (Ed, National Board of Education) Washington, D. C.: The National Academies Press, pp. 31-79.
- 6 geography.org.uk
- Lee, P. and Shemilt, D. (2003) 'A scaffold not a cage: progression and progression models in history', *Teaching History*, 113, pp 13-23.
- Massey, D. (2005) *For space*, London: Sage Publications.
- Qualifications and Curriculum Authority (2007) *Geography: Programme of study: key stage 3*, London: HMSO.
- Rowley, C. and Lewis, L. (2003) *Thinking on the edge*, Cumbria: Badger Press Ltd.
- Taylor, L. (2004) *Re-presenting Geography* Cambridge: Chris Kington Publishing.

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