

## Think Piece – Global warming

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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, Alun Morgan (then at the Institute of Education, University of London) considers some of the key issues, geographical and educational, related to this controversial topic and suggests ways to get PGCE students to develop informed and critically reflective responses.*

### Introduction

Put very simply, global warming is a 'hot topic' (excuse the pun) but also an exceedingly controversial one. Consequently, new teachers should engage with the topic from both a personal and professional perspective. Indeed, the two are intimately related since geography teachers should be amongst the most informed people in the population given their responsibility for supporting others to negotiate this complex issue.

This is even more pressing in the light of the recent, rather negative, Ofsted report (Ofsted 2008) which decries the poor teaching of Climate Change in geography lessons on the one hand; and the KS3 Curriculum Review which directs teachers more explicitly to teach about Global Warming on the other. To have developed a personal understanding of, and critically reflective response to, the complexities of Global Warming will be an important prerequisite for their crucial role as geography educators.

Key questions that geography educators should ask include:

- Why is it a particularly 'hot topic' at the moment?
- Why should it be a particularly 'hot topic' educationally?
- What is the geography, or rather geographies, of Global Warming?
- What are the specifically educational opportunities and challenges of Global Warming for geography education?
- How might we handle Global Warming as a controversial issue?

### Why is it a particularly 'hot topic' at the moment (in 2008)?

Global Warming seems to be on everyone's lips, whether they are a scientific expert or just a member of the general population (unlike the Hole in the Ozone Layer or Acid Rain which appear to be 'last year's news'; or Endangered Species which seem to concern far fewer people these days).

People have recently been focused on this particular issue more than others, but the question is 'Why is this issue higher on the agenda?'. The answer appears to be because it is perceived by some to represent one of the greatest (if not the greatest) threats to the future of humankind.

### **The international 'expert community'**

The most recent Intergovernmental Panel on Climate Change (IPCC) report (IPCC 2007) concluded that Global Climate Change is an unequivocal fact; that it is likely to result in increases in sea-levels and extreme weather conditions (i.e. tropical storms and severe droughts); and that the greatest contributing factor is anthropogenic (human induced) greenhouse gas emissions. Al Gore and the IPCC were jointly awarded the Nobel Peace Prize in October 2007 'for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change' – one of only a handful of occasions where an environmental issue has been deemed worthy enough of such recognition.

In early December 2007 the UN held its meeting to agree the Framework Convention on Climate Change in Bali. Whilst this meeting was not without controversy (as with the preceding Kyoto meeting in 1997), once again this meeting of the international scientific and policy making community pushed Global Warming high up the international agenda.

### **Popular culture**

In addition, Global Warming has entered popular consciousness in a variety of ways from Hollywood blockbusters (e.g. 'Waterworld', 'The Day After Tomorrow' and arguably even Al Gore's documentary 'An Inconvenient Truth') through to comics and cartoons. Generally, Global Warming is used to explore a dystopian future in the post-warmed world which makes for exciting and thought provoking adventures. Wikipedia (not necessarily the most reliable source for information but more than adequate in this case) provides a long list of examples of popular culture's engagement with Global Warming.

### **Why should this make it 'hot' educationally?**

If the international community feels Global Warming is crucially important, it surely represents a key theme that young people should be engaging with. Furthermore, given that the international community of experts cannot seem to agree as to the causes, effects and solutions, young people need to be equipped with the tools to make up their own minds about which information is reliable and which courses of action are desirable (and what their contribution, if any, should be)!

In addition, since students are bombarded by a host of information (and misinformation) through popular culture and the media, often in the most alarmist of ways, surely the development of a considered opinion through critical thinking skills is an important educational task?

### **Curriculum dictates and (partisan) resources**

The UK Government, reflecting these wider societal concerns, has directed educators and schools to address issues of sustainability, chief amongst which is Global Warming. Thus, the National Curriculum 2000 required that educators 'secure their (learners) commitment to sustainable development at the local, national, regional and global levels' (DfEE and QCA 1999) and this was reinforced in the 2008 National Curriculum (DCSF 2007) in which 'the Global Dimension and Sustainable Development' represented a key cross-curricular dimension.

Furthermore, the Governments ESD strategies (DfES 2003, 2005) have directed attention to whole school sustainability including the school community's contribution to global climate change. Geography Orders have, unsurprisingly, been charged with a significant responsibility in this respect. Thus, in terms of the Revised KS3 GNC, teachers are directed to teach about:

*'Interactions between people and their environments: This should include the investigation of climate change. Making links between people and their environments at different scales helps pupils understand interdependence (e.g. considering how their consumption of energy has a global impact on physical systems such as climate). Pupils should investigate different perspectives and values relating to these interactions, including sustainable development. They should also consider future implications of these interactions.'* (QCA 2007 p. 106)

## What is the geography, or rather geographies, of Global Warming?

Stuart Lane's (2008) recent article provides a very good starting point for considering the 'geography of climate'. Students should be directed to read it. Additionally, Mark Whitehead (2007) has provided an excellent introduction to the 'geographies of sustainability'. He suggests that 'thinking geographically' about sustainability issues is important since it 'helps to reveal the constructed nature of sustainability and uncover alternative sustainabilities or countercurrents to sustainable development' (ibid. p. 26), precisely what is needed for critically reflective professional development. He further suggests that 'thinking geographically' about sustainability issues involves three dimensions or 'lenses':

- **Space** (or **thinking 'spatially'**) i.e. considering how the causes and effects are not evenly distributed across the globe; and, just as importantly, how the issues themselves are perceived differently in different places. Indeed, Whitehead even suggests that there are different types of spaces relevant to sustainability issues: 'formal' spaces (of mainstream thinking and official planning whether at the local, national or indeed international levels); and 'informal', 'liberated' or 'radical' spaces (in which alternatives to mainstream thinking and acting are 'lived out'). This notion of different spaces associated with different ways of thinking relates well to the notion of discourses discussed below.
- **Integration** (or providing **integrated accounts**) i.e. providing an holistic account of the phenomenon under consideration which integrates economic, social and environmental factors.
- **Scale** (understood not as discrete hierarchical ordering of space but as a relational category that reveals 'the ways in which global processes are intertwined with processes operating in states, regions, cities, communities and homes'). (Whitehead, 2007, p. 27)

## What are the specific *educational* opportunities and challenges of Global Warming for geography education?

I am sure I was not the only geography educator who had developed a degree of confidence in the reality (and causes and effects) of Global Warming to have their confidence rocked substantially by the Channel 4 documentary aired on Thursday 8 March, 2007. Entitled 'The Great Global Warming Scandal', the programme didn't deny the reality that the planet's climate was indeed warming, but sought to debunk the notion that it was an anthropogenic (human induced) problem (i.e. refuted the findings of the IPCC's 2007 report).

The real cause, according to the assembled eminent scientists is 'sun spots'. This programme presented a very cogent argument backed up with statistics and expert commentary. However, quite soon after airing, the programme came under scrutiny and caused a storm of debate. Similarly, Al Gore's 'An Inconvenient Truth', despite having won an Oscar and been largely responsible for Gore's share of the Nobel Peace Prize, has also be heavily critiqued as biased (from both ends of the environmental ideological spectrum). Of particular note was the UK High Court Case brought by Dimmock versus the

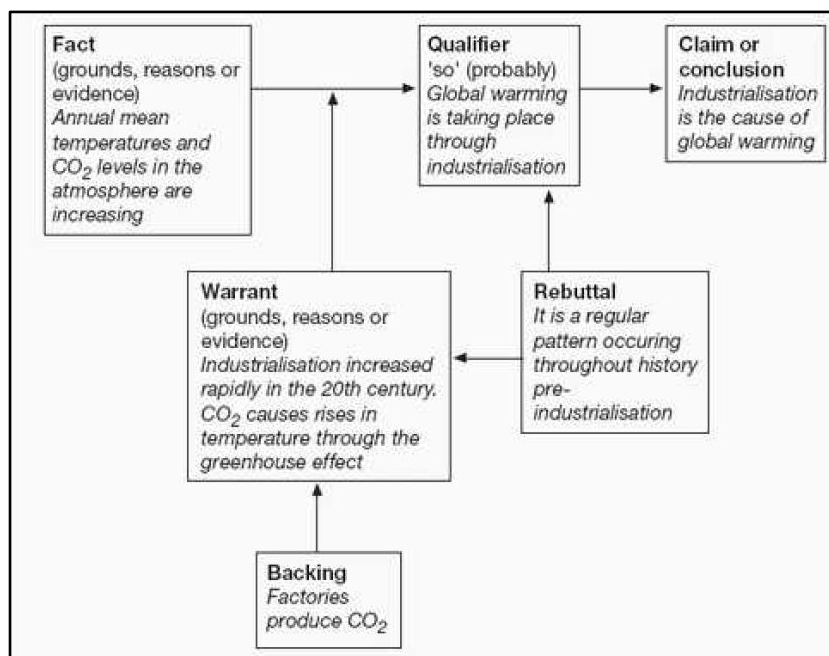
Secretary of State for Education and Skills in the autumn of 2007 to prevent the film being shown in English schools as part of the 'Sustainable Schools Year of Action'.

### Arguing about the Wicked Geography of Global Warming

How is one supposed to negotiate the complexities of such a controversial topic as Global Warming? David Hicks (2007) has contributed a chapter to *The Challenge of Teaching Controversial Issues*, which explicitly deals with the challenges and opportunities for engaging with Global Warming as a controversial issue – it is well worth directing students to.

Argumentation represents an approach which can support learners' (of whatever age!) negotiation of these complex and controversial topics. As a mere pointer, Figure 1 shows a structured argument related to the hypothesis that industrialisation causes Global Warming could be generated.

Figure 1



(Source: Morgan 2006, p. 132)

It is because Global Warming represents a Wicked Geography (Morgan 2006) par excellence which makes it so important for inclusion in the curriculum for purely educational reasons, since it requires the development of critical thinking skills, the handling of opposing perspectives, scientific and social data, negotiation amongst peers and emotional intelligence in order to arrive at a personally adequate and informed response to it. PGCE students should be encouraged to engage with collaborative argumentation regarding this issue and encouraged to also do so with their students.

## Conclusion

Global Warming, Global Climate Change (call it what you will) represents a highly relevant, important yet controversial and contested concept that has significant relevance to the discipline of geography and the practice of geographical education. PGCE Geography educators should be given opportunities to explore this complex issue for both their personal and professional development.

## References

- DCSF (2007) *Secondary Curriculum Review*, ed. DCSF.
- DfEE and QCA (1999) *The National Curriculum*. DfEE/QCA.
- DfES (2003) *Sustainable Development Action Plan for Education and Skills*. London: Office of Public Sector Information.
- DfES (2005) *Learning for the Future: The DfES Sustainable Development Action Plan, 2005/06*. DfES.
- Dow, K. and Downing, T. (2006) *The Atlas of Climate Change*. London: Earthscan.
- Hicks, D. (2007) 'Education for sustainability: how should we deal with climate change?' in Claire, H. and Holden, C. (eds) *The challenge of teaching controversial issues*. Stoke-on-Trent: Trentham Books Ltd. pp. 67-81.
- IPCC (2007) *Climate Change 2007: The Physical Science Basis - Summary for Policymakers*. (Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change), 18. Geneva: WMO/UNEP.
- Lambert, D. (2008) 'Inconvenient truths'. *Geography*, 93, 1, pp. 48-50.
- Lane, S.N. (2008) 'Thinking through climate change: an introduction'. *Geography* 93, 1, pp. 4-10.
- Morgan, A. (2006) 'Argumentation, Geography Education and ICT'. *Geography* 91, 2, pp. 126-140.
- O'Riordan, T. (2004) 'Beyond Environmentalism: Towards Sustainability' in Matthews, J.A. and Herbert, D.T. (eds) *Unifying Geography: Common Heritage, Shared Future*. London: Routledge.
- Ofsted (2008) *Geography in schools: changing practice*. Ofsted.
- QCA (2007) *Geography: Programme of study for key stage 3 and attainment target*. London: QCA.
- Whitehead, M. (2007) *Spaces of Sustainability: Geographical Perspectives on the Sustainable Society*. Abingdon, Oxon: Routledge.