

RGS-IBG KS3 CPD Module: Sustainable Development

Slide1: Introduction

Welcome RGS-IBG Key Stage Three tutorial on 'sustainable development'.

The aim of this tutorial is to explore the concept of sustainable development and how it might be incorporated into geographical learning at Key Stage Three. A range of teaching ideas is provided and the emphasis is on making learning relevant to the issues of today and the UK. Consideration of sustainable development can be incorporated into studies that cover the full range and content, and support the diverse curriculum opportunities and key processes of the revised geography programme of study.

'Sustainable development' is one of the key geographical concepts that underpin the revised Geography Key Stage Three Programme of Study. It is an overarching concept that can be used as a starting point to study, or it can be drawn into studies once pupils have established knowledge and understanding of a place or issue. It can run as a thread through the curriculum as pupils explore and apply their understanding in new contexts. A study of sustainable development integrates environmental, social and economic issues. Despite its complexity it is a concept that can be incorporated into geographical studies of practically all of the scales identified in the range and content of the revised programme of study (personal, local, regional, national, international, continental and global), and of almost any place, issue or form of management or environmental change. Suggestions are included throughout this tutorial.

Slide 2: Overview

Sustainable development can be defined as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland Commission 1987). 'Sustainable development' is a complex and contested concept. The term is used frequently by geographers, politicians and media commentators alike yet each can mean something very different. Some see it as an emotive and ambiguous catchphrase used by environmentalists. People may be inaccurate or biased in their use of and understanding of the term - an economist may have a completely different definition of the term to an organic farmer. Good teaching about sustainable development can encourage pupils to identify bias and question the provenance of what they read and hear - all essential processes of geographical enquiry identified in the revised programme of study.

Sometimes school geography has been criticised for 'green-washing', that is, just teaching pupils to 'be green' and accept straightforward and sometimes

simplicistic solutions amounting to looking after the world by recycling paper, buying fair trade chocolate and disagreeing with deforestation. However, the concepts of 'sustainability' and 'sustainable development' offer geography teachers the opportunity to take a wider view of development, to adopt a questioning approach and challenge pupils – for example why should we recycle to minimise our environmental impact when China builds two coal-fired power stations per week? We can ask our pupils some tough questions: the answers may be tentative and unclear but that is the nature of geography. Good teaching about sustainable development will allow pupils to engage with what is known and what is uncertainty and accept that there may be no one clear answer but a range of possibilities all of which may have different implications. (For example, in addressing the previous question about China pupils may consider the need to (and right to?) develop economically to improve people's quality of life and balance this with environmental needs; much of China's industrial output is exported to Europe so we contribute to China's energy usage and by consequence the negative aspects of this.)

Having explored a shared understanding of sustainable development, pupils could be presented with a range of images of places to analyse using the development compass rose (see <http://www.e4s.org.uk/biffa/ghana/rose2.html> for example). They could then discuss the big questions like 'is this place sustainable – why/why not??' and 'what will this place be like in the future?' and 'how should this place change for the better?' Pupils could produce annotated versions of one image and present their views to the class. Such a learning activity would incorporate the key processes of graphicacy and visual literacy, and encourage the creative interpretation of place and questioning aspects of geographical enquiry. It would allow pupils to communicate geographically in speech and writing, also a key process of the new curriculum.

Slide 3: Scope of the concept

The concept of sustainable development relates to action and change that achieves positive outcomes and minimises the negative for people and the environment. Sustainable development will be resource-conserving and minimise waste, whilst also meeting communities' current and future needs and also empowering local communities.

Sustainable development is the subject of debate at the global scale. The Earth Summits at Rio in 1992 and Johannesburg in 2002, looked at environmental, social and development issues and how they inter-relate, and required Agenda 21 policies at national and local levels. Thus the scope of the concept is vast and potential applications within the Key Stage Three curriculum are many and varied.

Sustainable development acknowledges how actions today affect the future, a future we will all live in. As geographers we should explore the geographical underpinnings to the actions that may contribute to more sustainable development. Pupils often enjoy the challenge of considering such big ideas and considering their role as British and global citizens

After initial discussion, pupils could keep a diary, scrapbook or collage of media references to sustainability (adverts, packaging, magazines, news etc). This activity would allow pupils to identify and evaluate bias and opinion, important and necessary aspects of geographical enquiry. Pupils could research a range of sources about world issues currently in the news, an important curriculum opportunity, and then describe future world scenarios – with and one without sustainable developments.

Slide 4: Place

Sustainable development considers quality of life, the economy and the environment. The concept can be applied to studies of almost any geographical place, theme or issue and so supports the breadth of study required by the revised programme of study. For example, the website www.globaleye.org.uk offers two major case studies which illustrate sustainable development in Cameroon and Cote d'Ivoire. Cocoa farming in West Africa is featured as an example of the development of sustainable agriculture. Developing sustainable cocoa production is vital if increasing levels of demand and production are not going to result in further damage to the environment through e.g. deforestation and soil erosion, and communities are to develop.

At the same time, personal experience of place and the places valued by pupils are valid and important choices for study and help emphasise pupils' involvement in issues of sustainability. Pupils could be asked evaluate the sustainability of a cityscape or rural area. They could re-design an urban landscape to make it more sustainable or, possibly re-design their local area to make it adhere to Local Agenda 21, annotate changes onto a base map or overlay, or digitally manipulate a map to show possible changes. Such an activity offers curriculum opportunities for the application of GIS and local fieldwork based on pupils' personal experience and knowledge of their place.

The concept of sustainable development can be drawn into existing teaching schemes. If pupils already study an LEDC city and shanty towns then ask them to identify how these settlements might not sustainable and suggest innovative sustainable solutions that could improve life and the environment for local people. This could be done through model building or manipulation of digital images to show the improved versions. For assessment pupils could make short video tours of their model shanty towns with commentaries or give PowerPoint presentations of their manipulated images. Pupils could then web research a real place that is sustainably managed, like Curitiba in Brazil.

These learning activities involve creative ways of interpreting place and space, and the collection and display of information, both key processes required by the new curriculum.

Slide 5: Space

Sustainability is about interaction between the human and physical worlds. These interactions can be spatial and have spatial outcomes; they provide a diverse range of possible topics for studying sustainable development. The Earth Summits identified a range of crises that manifest in spatial disparities at local, regional and global scales. Globally there are economic, social, political and environmental tensions: currently one fifth of the population live in poverty, the Earth's limited resources are being consumed unevenly and at startling rates with consequent environmental impacts that cross international boundaries. Resources and wealth are distributed unevenly – the 80% of the world's population that live in LEDCs consume only 20% of the world's resources. It is often the low-income groups in society that are most affected by issues of unsustainability. Division and disparities, such as in water supply, energy use, food supply or wealth are created by unsustainable development and sustainable development would seek to reduce disparities. Sustainable development thus supports curriculum opportunities for investigating real and relevant contemporary contexts.

Pupils could investigate the Worldmapper website and select maps that they feel demonstrate aspects of uneven sustainable development, so developing skills of graphical and visual literacy. They could suggest ways in which the maps would look different in a more sustainable and equitable future.
www.worldmapper.org

Slide 6: Scale

The Rio and Johannesburg World Summits involved agreeing and implementing strategies for sustainable development which are now a requirement for national and local governments – Agenda 21 and Local Agenda 21. The beauty of sustainable development is that it can be considered at the full range of geographical scales and in a huge range of contexts, places and environments. This means that there is plenty of scope for teachers to select the place and scale of study that will best provide their pupils with the opportunities to learn and make genuine progress. Actions and issues at global, national, local scales, and individual and collective decisions can all influence development and its sustainability. Local scale issues and the actions of individuals are useful entry points for introducing sustainability at Key Stage Three.

Successful sustainable development can involve local people in small-scale change, bottom-up strategies, and appropriate technologies. It is cost-effective and minimizes environmental disruption.

Pupils could find a genuine 'sustainability checklist' on the worldwide web and then use it to evaluate images of development. There is an excellent real example of a checklist at <http://www.gloucestershire.gov.uk/index.cfm?articleid=3480>, thus pupils could develop skills in ICT and graphical literacy.

Pupils could carry out an ESIA (an environmental and social impact assessment) based on local fieldwork at a real proposed development in their local area or on their school.

The concept of the 'ecological footprint' (or 'carbon footprint') or is one that has recently gained publicity and is a useful way of getting pupils to view their consumption, its global impact and implications for sustainable planet. There are a number of footprint calculators on the worldwide web, try <http://footprint.wwf.org.uk> . Such learning activities support curriculum opportunities for linkage between geography and other subjects like citizenship and ICT.

Slide 7: Interdependence

An understanding of sustainability involves an appreciation of the interconnections that exist between environment, economy and society, and also of the connections between scales and the past/future.

Decisions made in one location by one group of people may have far reaching consequences for others in near and distant places, and for the future, exemplified by the possible impacts of fossil fuel use and climate change on Arctic environments. Again, geographers can use a wide range of possible topics to investigate interconnections. Topics include population growth, global warming, migration, resource use, and trade. Teachers may incorporate learning about sustainable development into topics that they already teach or may take the opportunity to select novel topics directly relevant to their pupils and local area.

Pupils could explore interdependence by drawing a concept map or mind map of the many and various causes and consequences of fossil fuel use or population growth. They could then use their diagrams to identify opportunities for sustainable development and reducing the negative environmental and social impacts of human activities.

Slide 8: Environmental Interaction and sustainable development

Sustainable development is a dynamic concept that pulls together the human and physical worlds. It highlights the tensions between economic prosperity, social fairness and environmental quality. Pupils may consider difficult questions such as 'Why shouldn't countries like Brazil fully exploit their natural forest resources given that so many people live in poverty? Aren't people more important than trees?' This question could form the basis of a class debate at the end of a topic on tropical rainforests.

Climate change, like sustainable development, is a much publicised and controversial issue. There is clear evidence for past changes to our climate - however, projections for the future and the likely impact on human societies are contested. The concept of 'sustainable development' can be incorporated into any existing learning schemes about valuable environments. Sustainable development decisions attempt to adjust negative environmental interactions. Any study of climate change would require consideration of sustainable development.

Slide 9: Physical and Human Processes

A grasp of sustainable development can help pupils better understand how processes of change can impact upon human and physical environments, and to suggest how these impacts and environments can be managed. After investigating fluvial landforms and the causes and consequences of flooding, pupils could then research and evaluate the sustainability of flood prevention measures and present flood management recommendations for Local Authorities in the UK – this may be a particularly relevant exercise for some given the events in Northern and Central England of July 2007.

Tourism is another appropriate topic for linking sustainable development to human and physical processes. Pupils might research and present a sustainable eco-code of conduct for visitors to vulnerable environments like Svalbard in the High Arctic or the Brazilian Amazon.

Slide 10: Cultural Understanding and Diversity

All development decisions are set in a cultural context and are influenced by the values and attitudes of those people involved in and affected by the development. Some cultures may appear to be more sustainable than others for example the Amazonian Amerindians or Inuit groups of the Arctic are often claimed to be more sustainable than 'western' lifestyles. However, a simplistic comparison between societies living in different environments and at different scales can be misleading. Indeed, with growing rates of globalization it is the interconnectedness of human societies which also has an important influence on sustainable development.

Pupils should consider their own cultural influences, values and attitudes, and empathise with the values and attitudes of others. Ask pupils to do a role play activity or write speech bubbles to answer the questions 'what's sustainable development got to do with me/my family/my country/my continent/my world?' As a result pupils may develop views as a global citizen and even participate in informed and responsible actions, both important curriculum opportunities identified in the new programme of study.

Slide 11: Pulling the threads together

Sustainable development is a conceptual thread that can be identified in almost any place, issue, scale or case study within Key Stage Three Geography. The study of sustainable development allows us to evaluate our own role (pupil, teacher, individual, society) and the role of others in the future.

We can develop understanding of sustainable development to properly allow young people to understand the geographical perspectives of this concept and to develop the critical skills to evaluate sustainable development.

We should ask and expect our pupils to question and allow them to voice and justify their opinions, and consider their own contributions to the issues they study.

Pupils could be presented with a worksheet listing a range of arguments and comments, negative and positive, concerning sustainable development and ask them to present counterarguments. Their sources of information could be themselves or resources provided by the teacher.