Resources to support the integration of climate issues in the curriculum

Several respondents to our survey on integrating climate issues in the curriculum noted that finding useful and relevant material is a challenge. There is a large and rapidly growing body of resources online, but this is part of the problem. How can educators find, choose, and integrate appropriate good quality material when the pool of resources is so large, and time is limited.

In this short briefing we have curated links to two kinds of resources. Firstly, a set of openly available videos that might be useful in providing a broad overview of the climate crisis. Secondly, links to a small number of easy-to-use sites that host curated collections of resources. In both cases the resources were selected using three criteria – ease of access, credibility, and openness. The emphasis is on openly licensed resources (OER) and in an Appendix we provide a short guide to the affordances of using openly licensed material (Creative Commons).

The links are to trusted and good quality sites that have longevity. We have focused on OER because open licenses allow educators to share the material with colleagues and students without fear of infringing copyright and (depending on the nature of the open license and subject to appropriate attribution) to integrate material into curricula in either its original or reworked form.

It should be noted that climate change is both a product and a driver of global inequality. Most online resources are created in locations and from perspectives that tend to marginalise voices from the global south. This is true of many of the resources highlighted here. It's important that the distortions that this creates are made explicit to students and that learning design encourages a critical and reflective approach.

Videos:

A short list of openly accessible videos that address key issues in the climate debate.
The purpose of including these videos in the resource are to allow educator to inform and stimulate the start of a discussion.

Climate Change Talks: a longer talk by Professor Kevin Anderson that looks at transition, social justice, mitigation, and impact – 59.33mins
https://youtu.be/na1aHtv0OKI
This video is clear and comprehensive and includes enough science and technical information without it becoming too burdensome. There is a clear and consistent climate justice framing. It is, however, pre-Covid, pre-COP26 and pre the 2013 IPCC synthesis report. The IPCC has produced a summary of its latest reports that is a good complement to Kevin Anderson's talk.

https://www.youtube.com/watch?v=YlFCSZYU2LM

The Paris Agreement: a two-minute video from the United Nations on the Paris Agreement which was signed at COP21 in 2015 – 1.39mins
https://www.youtube.com/watch?v=5THr3bFj8Z4
Good as a discussion starter. It could usefully be supplemented by the IPCC video included at the end of the previous paragraph.

The carbon cycle is key to understanding climate change: a short video from the Economist that explores the carbon cycle and how the use of fossil fuels has disrupted the long-term equilibrium of the cycle – 7.43mins
https://youtu.be/yhlg9txl7yM
Useful for starting a discussion. It introduces a different way of framing the discussion using the concept of sources and sinks and is clear on fossil fuels and human action.

Planetary boundaries: a four-minute discussion of the concept of planet boundaries and how climate intersects with the other eight boundaries. Just under 4 minutes. This video is useful for introducing the concept of planetary boundaries but omits other important issues.
https://www.youtube.com/watch?v=Mpv6aPFhr80

Climate change and the future of humanity: an animation by David Wallace-Wells published by the RSA – 4.5mins. This video focuses on the consequences of global temperature rises. An attractive and well-presented video but doesn't provide much of an analytical framework and less useful as a discussion starter.
https://www.thersa.org/video/animates/rsa-minimate/2020/climate-change-future-humanity

OpenLearn

OpenLearn is a site provided by the Open University (UK) that hosts OER resources. The material is catalogued by subject area and there is an effective search tool. You can browse material without signing into the site, however, to try out the assessments that form part of some of the short open courses you (or your students) will need to set up an account. This simply requires providing a valid email address. When you locate a resource, you will find that there is always information about which form of Creative Commons license applies.

This link takes you straight to climate resources on OpenLearn:
https://www.open.edu/openlearn/local/ocwglobalsearch/search.php?q=climate

As of May 1st, 2023, OpenLearn hosted:
1. Five short courses
    - Climate change
    - Climate justice for the next generation
    - Climate change: transitions to sustainability
    - Could we control our climate?
    - Climate change: island life in a volatile world

2. Several hundred articles on a wide range of climate related topics.

3.   More than 80 videos.

4.   More than 50 audios tracks.

5.   A small number of resources that support structured activities.

Amnesty International
A good, reputable resource the integrates experiences from different parts of world.
https://www.amnesty.org.uk/education-resources-climate-change

University and Colleges Union (UCU)
The UCU has an excellent website that provides links to resources for climate learning, organised in several topic areas. The resources collected under the different topics range from case studies to academic papers and ideas for activities. Most, but not all, of the resources linked to are openly licensed.

You can go straight to the resource page via https://climatelearningresources.org.uk

OER Commons
OER Commons is a US based site that aggregates open educational resources. As of May 1st, 2023, the climate section includes material for higher education organised in 4 subject areas:
Climate Education: Communications – open textbooks, full courses, and a course design (7 resources)
Agriculture and Climate – case studies, full courses, and a course design (9 resources)
Social Science and the Impacts of Climate Change - open textbooks, full courses, activities, and toolkit materials (14 in all)
Climate Change and Public Health – 3 case studies and an open textbook
Environmental and Climate Science – a range of open textbooks, full courses, and toolkit materials (19 in all)
Engineering and Climate - 12 full courses from Delft University of Technology

All the resources on OER Commons are catalogued with a clear statement of the open license that is ascribed to the material. Some of the resources are US-centric.

You can access all these resources via https://www.oercommons.org/hubs/climate#higher-education-climate-resources

Education for Sustainability at the University of London

University College London has developed a toolkit on embedding sustainability in your teaching and learning. While the remit of the toolkit focuses on the Sustainable Development Goals there is lots in it which is relevant. The toolkit covers:

- [What is Educational Sustainable Development (ESD)?](#)
- [Why does ESD matter?](#)
- [How to embed ESD into your teaching](#)
- [Opportunities for embedding ESD](#)
- [Key takeaways](#)
- [References and further reading](#)

Open University UK Library

Almost 300 resources on sustainability. The resources are split into five categories:

- long-term thinking: to help us think bigger and invest in our planet's future
- prevention: there is a lot we can learn to prevent further damage being done
- involvement: how and why should we make changes in our daily lives
- collaboration: the power of working together and involving all kinds of people
- integration: new approaches that ensure the longevity of the human race and planet Earth

https://www5.open.ac.uk/library/library-resources/sustainability

An interactive map on climate change from the world bank (climate knowledge portal) can be used to

- Learn about climate at the global, national, sub-national and watershed levels.
- Enhance knowledge on climate change related topics, including exposure, vulnerability, sectoral impacts, and adaptation options.
- Assess, visualize, and download resourceful climate data and information

https://climateknowledgeportal.worldbank.org/overview

Appendix – using Creative Commons

All forms of Creative Commons licenses are prefixed by the letters CC. In this taxonomy Public Domain material is described by the tag CC0 (CC Zero). Under CC0 creators give up their copyright and put their works into the worldwide public domain. CC0 allows you to use the material, distribute, remix, adapt, and build upon the material in any medium or format, with no conditions.

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A full and straightforward explanation of all the licence types is given on the [Creative Commons website](#)