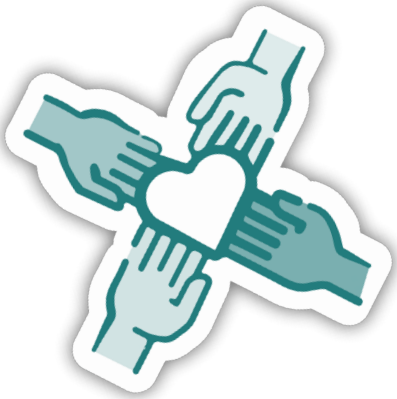
CLIMATE CHANGE PEDAGOGY









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WHAT IS CLIMATE CHANGE PEDAGOGY?

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WHAT IS CLIMATE CHANGE PEDAGOGY?

Climate Change Pedagogy focuses on how we can effectively engage our students with climate change through social, economic, political, environmental, and social justice topics in our learning and teaching practices.

You might not need to make changes to the content you already teach, you might just need to identify existing content where you can make this connection more explicit.

Inclusion and diversity are at the centre of Climate Change Pedagogies as it focusses on how climate change is interconnected in the social structure of our economy, especially by race and class. As such different communities do not experience the negative consequences of climate change equally. Black, Indigenous, and people of colour communities in the UK and, around the world are disproportionately affected. This, it involves concepts such as climate justice, racial inequalities, social inequality, green economy, and climate anxiety.

SOME ASPECTS **TO CONSIDER:**

• When possible, use data-driven explanations **(e.g., Data portal | Climate Action Tracker, Our World in Data)**

• Avoid assigning blame or judgment and foster an inclusive classroom environment. All perspectives are welcome. Invite students to voice their doubts, fears, or uncertainties. (to learn more about techniques and creating a validating classroom environment: **Empower 2YC Students with Validation**

• Bring and explore solutions every step of the way. A problem-solving approach prevents feelings of hopelessness and motivates students to propose scientific and technical responses needed to curb the worst effects of climate change.

WHAT IS **CLIMATE JUSTICE**?

There's no formal definition of climate justice. It advocates for a just division, fair sharing, and equitable distribution of the burdens of climate change and its mitigation and responsibilities to deal with it. Reputable organisations and scholars have described the term as:

Climate justice requires that climate action is consistent with existing human rights agreements, obligations, standards and principles. Those who have contributed the least to climate change unjustly and disproportionately suffer its harms. They must be meaningful participants in and primary beneficiaries of climate action, and they must have access to effective remedies.

(OHCHR, 21st Conference of the Parties to the United Nations Framework Convention on Climate Change)

...human rights and development to achieve a human-centred approach. [This safeguards]... the rights of the most vulnerable people and share[s] the burdens and benefits of climate change and its impacts equitably and fairly. Climate justice is informed by science, responds to science and acknowledges the need for equitable stewardship of the world's resources.'

(Mary Robinson Foundation , nd)

You can learn more about Climate Justice here:

Climate Justice And Human Rights Explained by Amnesty International

Schlosberg, David, and Lisette B. Collins. (2014). From Environmental to Climate Justice: Climate Change and the Discourse of Environmental Justice. Wiley interdisciplinary reviews. Climate change 5.3 pp. 359–374

What is Climate Justice by CarbonBrief

Top tips for communicating climate justice with young adults in Europe by ClimateOutreach

KINGSTON UNIVERSITY
NET ZERO CARBON TARGETS AND ACHIEVEMENTS

• Kingston University aims to achieve net zero for scope 1 and 2 carbon emissions (from a 2005/6 baseline) by the year 2038/39 and net zero for scope 3 carbon emissions (from a 2018/19 baseline) by the year 2050.

• The University has currently achieved a 68% reduction in scope 1 and 2 carbon emissions from the baseline year and has a roadmap in place to achieve net zero by the target year; this will primarily be achieved through the decarbonisation of heat, which is a critical challenge in achieving net zero. All staff can contribute towards this target by being energy conscious when on the estate (switching off lights, IT and energy-hungry equipment when not in use).

• We are currently developing a GHG inventory for scope 3 carbon emissions. This is where all staff and students can play a part in reducing the University's carbon emissions by opting for sustainable travel when commuting and travelling on business, purchasing less and reusing. In 2021/22, the University's scope 1 and 2 emissions were 4,416 tonnes of CO2e. In contrast, scope 3 emissions were 19,691 tonnes of CO2e, excluding scope 3 emissions from staff/student commuting, so we can expect this figure to be even higher. Figures from staff/student commuting haven't been included as we don't have up-to-date data, but as you know, we'll be rolling out a staff/student travel survey this year.

• The Net Zero Steering Group and the Estate Committee govern our progress.

If you want to know more, please visit the sustainability web pages (sharepoint.com): Sustainability / Energy and Carbon Management

ACTIVITIES YOU CAN DO WITH YOUR STUDENTS

Climate Pedagogies requires you to support your students in:

• Linking human rights with development and climate action

• Understanding that not everyone has contributed to climate change in the same way

• Combatting social injustice, gender injustice, economic injustice, intergenerational injustice and environmental injustice

• They can contribute as citizens and professionals to a system transformation.

Here are examples of activities you can do with your students to start the conversation. **You don't need to be an expert on Climate Change to implement these activities.**

Free riders and forced riders' activity

UN Sustainable Development Goals	**Goal 1** - No Poverty **Goal 2** - Zero Hunger **Goal 9** - Industry, Innovation and Infrastructure **Goal 10** - Reduce Inequalities **Goal 13** - Climate Action
Aim	This activity aims to raise awareness of students' Understanding that not everyone has contributed to climate change in the same way and discuss how they can prevent social injustice, gender injustice, economic injustice, intergenerational injustice, and environmental injustice. **Total time:** 40 to 60min, depending on how deep you want to go. **You will need:** - Confronting Carbon Inequality: Putting climate justice at the heart of the COVID-19 recovery (openrepository.com) or the video https://youtu.be/EYfMj3LAFEk as pre-reading for your students - A world map with the country's names can be an online map (e.g., Padlet) or a paper map. Slides with images of Mapping the Impacts of Climate Change Interactive Maps show effects of climate change for 233 countries (mapcruzin.com) or NASA's video Global Warming from 1880 to 2022 Slides with the "Who has contributed most to global CO2 emission graphs?" from Our World Data Who has contributed most to global CO2 emissions? - Our World in Data **Pre-reading suggested:** Climate Change Animation Shows Devastating Effects by AJ + https://youtu.be/S7jpMG5DS4Q?feature=shared
Cognitive Domain	- Introducing Climate Change and inequalities to your students will spark a rich conversation where they feel they have an opinion. Concepts of "mitigation" and "adaptation" can be discussed to foster **Self-Awareness and Normative Competency**. Mitigation involves either reducing the emission of greenhouse gases or, creating greenhouse gas sinks (which absorb greenhouse gases), or both. Adaptation consists of changing people's context to cope better with a world undergoing climatic changes. - Having access to a world map, students can identify and discuss climate change impacts around the world that they are aware of. If online, you can use Paddlet, which has a world map as background for students to add their comments.
Socio-Emotional Domain	- To foster a **Questioning mindset, Critical thinking, and Self-Awareness**, NASA's video and the Mapping the Impacts of Climate images can support their understanding of the significant differences between the Global North and the Global South countries. Ensure that you ask them why. - Students can develop System Thinking competency through the "Who has contributed most to global CO2 emission graphs?" images from Our World Data. Ensure that students can identify countries that contribute the most (Free riders) and those that contribute the least (Forced riders). Explore reasons for this phenomenon to facilitate understanding complex systems and recognising relationships. - Exploring high-income and low-income economies, developed and developing countries, "fair carbon shares", and climate finance will enable students to explore which communities are being most affected, which gender, etc., and explore any ethical issues that may arise from the conversation, such as reparations, Polluter Pays Principle, Beneficiary Pays Principle, Ability to Pay Principle, etc
Behaviour Domain	- At this stage, students will be able to identify one action they will try to do in their studies, on campus or their personal life concerning preventing social injustice, gender injustice, economic injustice, intergenerational injustice, and environmental injustice. - Students can explore how to get involved *Sustainability - About Kingston University - Kingston University London*

Imagining New Futures

UN Sustainable Development Goals	**Goal 7** - Affordable Energy **Goal 8** - Decent Work and Economic Grow **Goal 9** - Industry, Innovation and Infrastructure **Goal 10** - Reduce Inequalities **Goal 11** - Sustainable Cities and Communities **Goal 13** - Climate Action
Aim	This activity aims to raise students' awareness of human rights, development and climate change interconnection and how students can contribute as citizens and professionals to a system transformation. **Total time:** 60 to 120 min, depending on how deep you want to go. **You will need:** - Mentimeter - Suggestions for reading prior to the session, depending on your discipline: **Pre-reading suggested:** Bales, K., & Sovacool, B. K. (2021). *From forests to factories: How modern slavery deepens the crisis of climate change*. Energy Research & Social Science, 77, 102096. Knox, J. H. (2019). Bringing human rights to bear on climate change. Climate Law, 9(3), 165-179. Stein, P. J., & Stein, M. A. (2022). Climate change and the right to health of people with disabilities. The Lancet Global Health, 10(1), e24-e25. Stroud, H. M. (2020). Accounting for Equity in Climate Adaptation Planning: A Quantitative Assessment of Co-benefits for Green Infrastructure (Doctoral dissertation, University of Massachusetts Boston). Water, U. N. (2020). Water and climate change. The United Nations World Water Development Report. Why Climate Change Is a Threat to Human Rights | Mary Robinson | TED Talks https://youtu.be/7-JVTirBEfho?feature=shared
 ***Cognitive*** Domain	- Introduce climate change and a human rights topic (e.g., right to live., food security, water and sanitation, health, housing, self-determination, culture, displacements, etc.).
 ***Socio-Emotional*** Domain	- Using Mentimeter will enable more students to share what they envisage the world to be like in 2050. This activity will foster the development of Anticipatory Competency (Future Thinking) and Questioning mind-sets - Their answers will allow a rich discussion, fostering the development of Critical Thinking, - Self-Awareness, and Normative competency. You may explore the Dialogic Toolkit or the Critical Thinking toolkit to support the dialogue with students
 ***Behaviour*** Domain	- To explore further, the UN SDGs can be used to explore connections and intersectionality issues (e.g., race, ethnicity, gender, disability, age) or energy, industry, and sustainable cities-related issues will engage students with System Thinking Competency and Design Thinking. - Having their discipline, their future job, student groups can discuss why, what and how to achieve each of the following: Plausible futures: Possibilities that could happen given the bounds of uncertainty. Probable futures: Scenarios and possibilities that are likely to happen. Possible futures: The broadest range of scenarios, including all possibilities. Preferred future: The vision for possibilities they want to see come true. - A presentation of this work (e.g., PowerPoint, Video, Report, etc.) can be used as a formative or summative assessment.

UN Sustainable Development Goals	**Goal 9** - Industry, Innovation and Infrastructure **Goal 10** - Reduce Inequalities **Goal 11** - Sustainable Cities and Communities **Goal 12** - Responsible Consumption and Production **Goal 13** - Climate Action **Goal 15** - Life on Land
Aim	This activity aims to supporting students to linking human rights with development and climate action, combatting social injustice, gender injustice, economic injustice, intergenerational injustice and environmental injustice, understanding that not everyone has contributed to climate change in the same way, and thinking on they can contribute as citizens and professionals to a system transformation. This activity can also be used to support brainstorming before students do project work. **Total time:** 40 to 60min, depending on how deep you want to go. **You will need:** - MIT's En-ROADS Climate Solutions Simulator https://en-roads.climateinteractive.org/scenario.html - which allows exploring the of policies—such as electrifying transport, pricing carbon, and improving agricultural practices—have on factors like energy prices, temperature, air quality, and sea level rise. - Students can use their mobile phone, or you can use the room computer to show the simulator. **Pre-reading suggested:** Climate Change: Why does 1.5°C matter? - BBC What's New https://youtu.be/5rFmYRXWVio Lifestyle change and system change are two sides of the same coin https://youtu.be/S45266oIm58 What is climate change? A really simple guide by BBC https://www.bbc.co.uk/news/science-environment-24021772
 ***Cognitive*** Domain	- Introducing Climate Change, Carbon Emissions and Net Zero Carbon will engage with students in a rich conversation that is current, relevant and real-world based. Concepts of "mitigation" and "adaptation" can be discussed to foster **System thinking, Strategic Competency, Critical Thinking and Problem Solving.**
 ***Socio-Emotional*** Domain	- Using a Paddlet will enable more students to share their thoughts and have written access to colleagues' perspectives on three factors contributing to the temperature increase and propose three measures to prevent that from occurring. You can show the video "Climate Change: Why does 1.5°C matter? - BBC What's New" to support this activity. - Using their responses, you can support students in making connections between the anthropogenic factors presented in the video and the content in your discipline. Consider using the Dialogic Toolkit. - To foster the development of skills and increase awareness, show the MIT's En-ROADS Climate Solutions Simulator https://en-roads.climateinteractive.org/scenario.html and explain that it is set to the current at the current state of affairs. To foster **Collaboration, System thinking, Strategic Competency, and Critical Thinking, students can work together to**: Option 1: Students identify three variables from the simulator that may prevent the temperature from increasing more than 1.5C. Test their hypothesis. Reach conclusions. Discuss with the broader group having in mind issues such as technological innovation, scientific knowledge, economic injustice, reparations, Polluter Pays Principle, Beneficiary Pays Principle, Ability to Pay Principle, etc. Option 2: Decide on a scenario by setting the variables to the levels you want your students to reflect. Students then discuss in groups: What actions and priorities are needed over the next few years in businesses, civil society, government, and the public to implement this scenario? Who would benefit from these policies and be disadvantaged in the UK and globally? What ethical considerations are involved in this scenario? (e.g., economic injustice, reparations, Polluter Pays Principle, Beneficiary Pays Principle, Ability to Pay Principle, etc.) What trends in the UK and worldwide give you hope we can prevent reaching the 1.5°C tipping point?
 ***Behaviour*** Domain	To foster **Problem-Solving** and apply the knowledge they acquired, students decide on a scenario by setting the variables to the levels that prevent the temperature from rising above 1.5°C tipping point. Students should identify personal attitudes and behaviours to help to create the necessary change. A scenario presentation (e.g., PowerPoint, Video, Report, etc.) can be a formative or summative assessment.

Adapting buildings to climate change

UN Sustainable Development Goals	**Goal 10** - Reduce Inequalities **Goal 11** - Sustainable Cities and Communities **Goal 12** - Responsible Consumption and Production **Goal 13** - Climate Action
Aim	Rehabilitation of an existing building to improve its carbon footprint. Your advice must allow the client to run its building with technologies that seek to keep the building's carbon footprint at zero or near zero (new premises) or lower (existing building) levels over a 5-year plan period. Within the proposed design, you need to present a single comprehensive report covering the following: - Site identification and its implications for social and economic sustainability - A drawing of the existing plan - A drawing of your building adaptation (this would demonstrate your proposed layout with new fit) - Minimum three designs for climate emergency. - A brief schedule of work based on its current condition. - Advice on the best short term and long-term benefits of the design in terms of integration of principles of renewable technologies. Legal spatial requirements The emphasis of the project is rehabilitation and renewal whilst demonstrating sensitivities to existing building styles, fabric, and layout, while using technologies that seek to keep the building's carbon footprint at zero or near zero.
 *Cognitive* Domain	- **Appraisal of solutions** – in relation to existing and new building delivery, including carbon reduction technologies. - **Rehabilitation, alterations, and readaptation** – based on the analysis of solutions, site analysis, design evaluation, analysis of alternative scenarios, life cycle analysis of carbon reduction by passive/vernacular/renewable technologies.
 *Socio-Emotional* Domain	- **Understanding the existing building & the impact of change on a specific community** – historical background of the building in relation to its significance, including the analysis of the site and the impact the change would have on a specific community. - **Understanding the client brief** – justification of design decisions on the development of the projects with the ability to evaluate client's requirements in relation to the site.
 *Behaviour* Domain	- **Sustainability features** – consideration of whole-of-life performance through passive and/or active measures. - **Building adaptation criteria** – understanding of the requirements imposed by the site, outline specification, appreciation of building adaptation.

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Course: Psychology BSc and related
Module: PS5002
Faculty: FBSS

Promoting pro-social behaviour: an application of social psychological theory

UN Sustainable Development Goals	**Goal 7** - Affordable Energy **Goal 9** - Industry, Innovation and Infrastructure **Goal 11** - Sustainable Cities and Communities **Goal 13** - Climate Action
Aim	The aim is for the students to use the concepts and theories they have leaned in the module to explain a social issue and recommend interventions for behaviour change. Students are provided a brief from a community partner (e.g., KU Sustainability) asking for recommendations, based on the social psychological literature, that the partner can implement to encourage pro-social behaviour. The students are given the agency to choose what (usually marginalized) social group they might target for the behaviour intervention, thereby incorporating a facet of inequality reduction. Based on their research, the student groups produce a 15-minute presentation, recorded in PowerPoint, that explains their findings and recommendations to a lay audience.
Cognitive Domain	The students are required to acquire knowledge about the community partner, the behaviour and the social group that are the target of their intervention, and about how social behaviour change happens.
Socio-Emotional Domain	The project doesn't direct ask for social-emotional engagement, but a project this size should allow students to reflect on their values related to the subject.
Behaviour Domain	The project allows the students to gain confidence in their ability to identify, understand, research, recommend, and present findings related to actions that can be taken to encourage pro-social behaviours.

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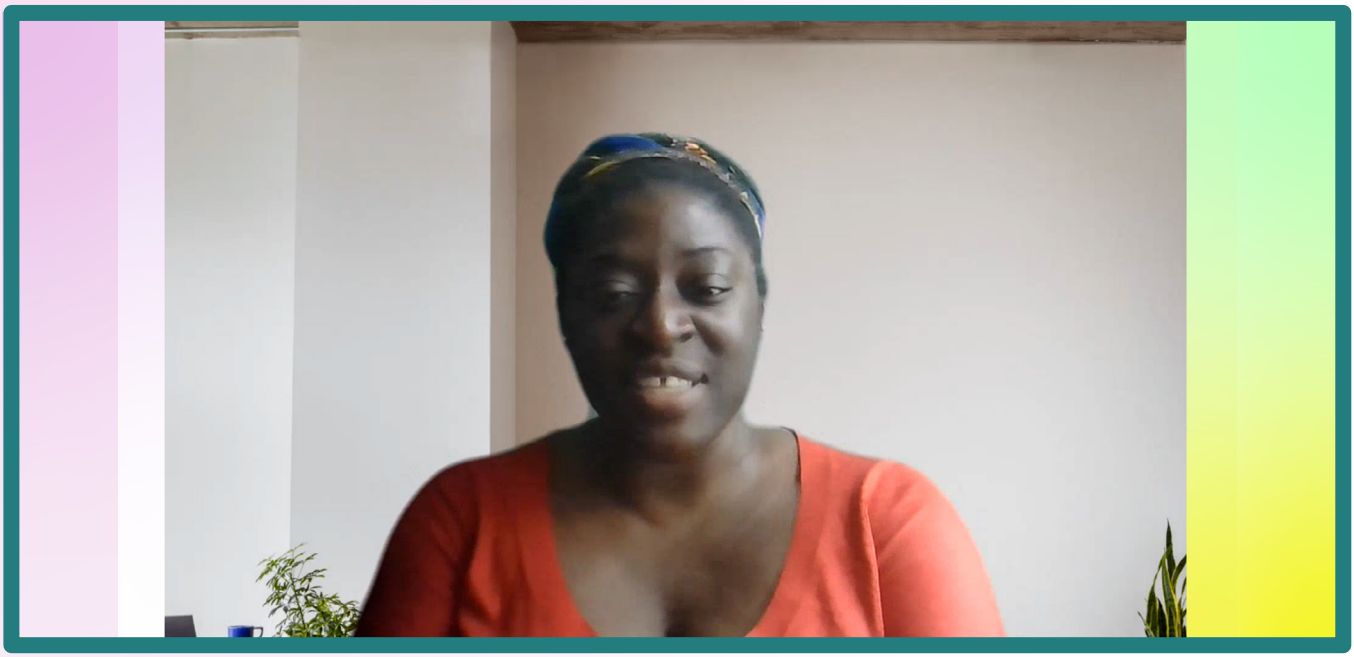
Check more case studies, click **here**.



Academics' Voice from across university on "What should the university do about climate change based on your perspective of students' experiences?"

THIS IS A LIVE TOOLKIT.

IF YOU WOULD LIKE TO CONTRIBUTE WITH A CASE STUDY, PLEASE COMPLETE **THIS FORM**

Learn more and take action!

Intergovernmental Panel on Climate Change (IPCC)
The Paris Agreement by United Nations (2015)
Net Zero Strategy: Build Back Greener by GOV.UK
What is climate change? A really simple guide by BBC
Climate Justice by Mary Robinson Foundation
Glossary | Climate Equity Reference Calculator

Educational resources:

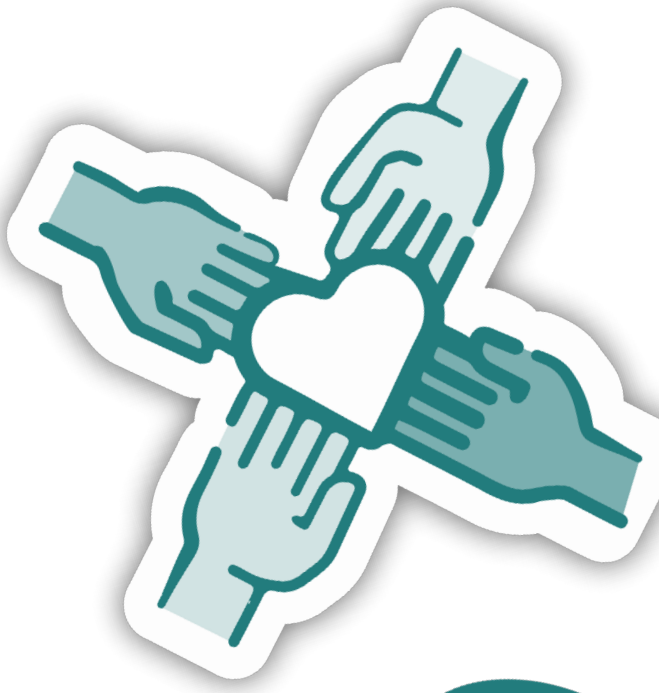
An existential toolkit for climate justice educators
Climate Clock
Global Climate Change by NASA
CO_2 and Greenhouse Gas Emissions by Hannah Ritchie, Max Roser and Pablo Rosado (2017)
Regeneration.org
DearPlanetEarth.org

Podcasts:

Stories from Home: Living a Just Transition Episode 1 - What is Just Transition? by Climate Justice Alliance
How to Save a Planet: Is Your Carbon Footprint BS? by How to Save a Planet
How Do You Cancel a Pipeline? by Indigenous Climate Action Podcast
The Unborn Future: How Western Philosophy Helped Propel Us Toward a Climate Catastrophe by CBCIdeas
How to Talk About the End of the World by The Big Story
Teaching in a Climate Crisis by VoiceEd
Race Against Climate Change by National Observer
Hope Resources: Ep 7: Leading Research, and Hope by VoiceEd

"The Climate Equity Reference Calculator" (2019) by Holz, Christian, Eric Kemp-Benedict, Tom Athanasiou and Sivan Kartha, in Journal of Open Source Software
"Environmental Justice in a Moment of Danger" (2020) by Sze, Julie
"Pesticide Drift and the Pursuit of Environmental Justice" (2011) Harrison, J.L. pp 1-18; 117-121; 138-143; 161-166; 183-186
"From the ground up: environmental racism and the environmental justice movement" (2000) Cole, L.W. and Foster, S.R., pp. 1-33
"Ecologically unequal exchange, ecological debt, and climate justice: and implications of three related ideas for a new social movement" (2009) Roberts, J.T. and Parks, B.C.
"Dancing the world into being: A conversation with Idle No More's Leanne Simpson" (2013) Klein, Naomi

The other debt crisis: Climate debt by Al Jazeera
Bali Principles of Climate Justice by International Climate Justice Network
Climate Justice Now! statement by Carbon Trade Watch
The People's Test on Climate 2015 by Brandon Wu (HuffPost)
The Leap Manifesto, A Call for a Canada Based on Caring for the Earth and One Another
The Green New Deal by Vox

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