Tackling the climate crisis

Empowering learners through climate change education

Dr Judith Roberts and Christine Özden

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What we’ll cover

• Climate change education – the why; what matters
• The scope of climate change education across the Cambridge Pathway
• Key curriculum considerations
• Amplifying student voices
• What we’ve been hearing from schools so far
• Learning and acting together
Climate change education

….helps learners understand and address the impacts of the climate crisis, empowering them with the knowledge, skills, values and attitudes needed to act as agents of change* 

What matters

• Education is critical in tackling the climate crisis.

• This needs high quality education.

• Context is key.
Climate change education in the Cambridge Pathway

Helping learners understand and address the impacts of the climate crisis, empowering them with...

Knowledge and skills

Climate Science
- Environmental Management
- Geography
- Sciences

In particular contexts
- Business Studies
- Commerce
- Economics
- Fashion & Textiles
- Marine Science
- Country studies (e.g. Bangladesh & Pakistan)

Values and attitudes

- Cambridge Learner Attributes
- Biblical Studies
- Islamic Studies
- Religious Studies
- Cambridge Global Perspectives

To act as agents of change

Skilled to engage
- Communication skills
- Critical thinking skills
- Mathematical & data skills
- Design skills
- Digital skills

Experience of collaborative change
- Cambridge Global Perspectives
- Science Competition

Empathetic and resilient
- Wellbeing
- Cambridge Learner Attributes

Cambridge Schools Conference, Online, March 2024
Effective communication: from competence to confidence
The Cambridge Pathway from 3 to 19

Cambridge Pathway — A clear path for educational success from age 3 to 19

- Cambridge Early Years
  - Age 3+
- Cambridge Primary
  - Age 5+
- Cambridge Lower Secondary
  - Age 11+
- Cambridge Upper Secondary
  - Age 14+
- Cambridge Advanced
  - Age 16+

Cambridge Professional Development for teachers and school leaders

Ready for the world
Introducing climate change concepts tailored to the age of learners
<table>
<thead>
<tr>
<th>Cambridge Early Years</th>
<th>Cambridge Primary</th>
<th>Cambridge Lower Secondary</th>
<th>Cambridge Upper Secondary</th>
<th>Cambridge Advanced</th>
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</thead>
<tbody>
<tr>
<td>Age 3+</td>
<td>Age 5+</td>
<td>Age 11+</td>
<td>Age 14+</td>
<td>Age 16+</td>
</tr>
<tr>
<td>Things I can see in the sky (e.g. clouds)</td>
<td>Introducing gases, chemical reactions and habitats</td>
<td>Carbon cycle</td>
<td>Sources &amp; effects of atmospheric pollution by methane &amp; CO₂ (Biology &amp; Chemistry)</td>
<td>Climate change and biodiversity (Biology)</td>
</tr>
<tr>
<td>Humans impact their environment</td>
<td>Climate change and link to atmospheric change</td>
<td>Global warming due to carbon dioxide and methane (Chemistry)</td>
<td>Catalytic converters Reactions of atmospheric pollutants (Chemistry)</td>
<td>Electromagnetic induction (Physics)</td>
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<tr>
<td>Energy resources</td>
<td></td>
<td></td>
<td>Energy resources and electrical power generation (Physics)</td>
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</tbody>
</table>
Progression in understanding plastic pollution

Cambridge Early Years
Age 3+
Objects vs materials
Looking after the outdoors environment (e.g. putting litter in a bin)

Cambridge Primary
Age 5+
Objects, materials, substances, particles
Humans can pollute the environment and toxic substances can move through a food chain or food web

Cambridge Lower Secondary
Age 11+
Introduction to the covalent bond
Bioaccumulation

Cambridge Upper Secondary
Age 14+
Plastics as polymers (Chemistry)
Non-biodegradable plastics in aquatic and terrestrial ecosystems (Biology)

Cambridge Advanced
Age 16+
Degradable polymers (Chemistry)
Climate change education in the Cambridge Pathway

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To act as agents of change
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Cambridge Global Perspectives™

Cambridge Schools Conference, Online, March 2024
Effective communication: from competence to confidence
A multi-disciplinary curriculum
Harnessing the strengths of each discipline

- Powerful knowledge
- The discipline’s methodology
- Thinking like a mathematician

Mathematics

Mathematical ‘lens’
A multi-disciplinary approach to climate education
Young people as agents of change
Young voices matter
Any questions or comments so far?

- Climate change education – the why; what matters
- The scope of climate change education across the Cambridge Pathway
- Key curriculum considerations
- Amplifying student voices
- What we’ve been hearing from schools so far
- Learning and acting together
What we have been hearing from schools so far…
Educators so far have told us how climate change education works in their school.
However, only a third have made progress in terms of having a specific focus on climate change and sustainability at their school.

- **37%** At the beginning of our journey
- **30%** Not yet
- **17%** A top priority across the entire school
- **13%** Priority in number of departments
- **3%** We have a developing programme in place
Climate education equips learners with knowledge and skills, empowering them to take action in their own lives.

- It plays a crucial role in equipping learners with knowledge and skills to address climate-related challenges.
- It helps empower learners to take action in their own lives.
- It helps to develop learners' resilience and adaptability supporting them to meet the challenges of an unknown future.
- It helps create a safe space for learners to express their views about climate change and learn to respect the views of others.
- It helps learners to identify accurate information from greenwashing and misinformation.
- It is part of preparing learners for the jobs of the future.
- It can support learners feeling anxious about the impacts of climate change.
But it is not without its challenges... such as finding appropriate content or case studies, as well as choosing a learning strategy.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Distribution</th>
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<tbody>
<tr>
<td>Selecting the right learning strategies for subject, age, and issue</td>
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<tr>
<td>Finding relevant content/case studies appropriate to local context</td>
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<td>Integrating in into the curriculum</td>
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<td>Clearly explaining complex concepts</td>
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<td>Making space for different perspectives and responses to topics</td>
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<td>Lack of training</td>
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<td>Making it relevant for students</td>
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<td>Addressing students’ anxiety related to climate change</td>
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“The most important part of this task for us teachers is to make students understand the urgency of change, a turning point in our daily way of life. Each of us can and must feel an active part, making a difference by adopting more appropriate, eco-friendly lifestyles.”

Teacher, Head of Department, Coordinator

Italy
Learning and acting together

• Read our introduction paper
• Complete our survey
• Join our research community
• Find out about the latest news

cambridgeinternational.org/climatechangeeducation
Thank you and questions