Other:
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Climate Food Education Group response to UK Government Curriculum and Assessment Review

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Climate Food Education Group response to UK Government Curriculum and Assessment Review
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November 2024

This document contains a submission to the UK government Curriculum and Assessment Review - Call for Evidence
https://consult.education.gov.uk/curriculum-and-assessment-team/curriculum-and-assessment-review-call-for-evidence/

1. Are you responding as an individual or on behalf of an organisation?
Organisation

3. If you are responding on behalf of an organisation, which of the below best describes which part of the sector your organisation represents? [If more than one applies, please select the one that you think is most important to understanding your consultation response.]

1. **Primary school**
2. **Secondary school or college**
3. **Sixth form**
4. **General FE College**
5. **Higher Education Institution**
6. **Multi-academy trust**
7. **AP/Specialist provider**
8. **Middle school**
9. **Union or professional association**
10. **Employer or employer representative body**
11. **Charity, social enterprise organisation or non-profit organisation**
12. **Community organisation**
13. **Local authority**
14. **Think tank**
15. **Professional association**
16. **Awarding organisation**
17. **Other (please describe)**

[1] Rebecca Lait (University of York) is an author of this document even though they were not listed in section 4.

Other

This submission is presented by a group of academic researchers and representatives from organisations and individuals working in the UK on issues related to climate change, sustainability and food education. The group was formed in 2023 with the aim of identifying pathways for improving the teaching of the links between food and climate change in schools. It is made up of educators with recent experience of teaching in primary and secondary schools, engagement and outreach experts responsible for delivering food education programmes in schools and educational settings and leading food climate scientists.

4. What is the name of your organisation?
Climate Food Education Group
Molly Watson (University of York)
Sarah Bridle (University of York)
Kim Smith (City University)
Christian Reynolds (City University)
Ali Morpeth (University of Leeds)
Joe Duncan-Duggal (Foodsteps)
Alana Kluczkovski (University of York)
Fran Box (TastEd)
Stefan Kepinski (University of Leeds)
Neil Ward (University of East Anglia)
Melanie Reed (Rethink Food CIC)
Kate Jones (Cranfield University)
Tom MacMillan (Royal Agricultural University)
Martin Skingley (ProVeg UK)

5. What is your role within the organisation?
Convenor

6. What is your name?
Sarah Bridle

7. What is your email address? [Please note: If you are willing to be contacted about your submission, please provide your email address. You do not have to give your email address, and your views will be considered whether or not you provide this.]
sarah@sarahbridle.net

8. Are you happy to be contacted directly about your response? [Please note: The Review may wish to contact you directly about your responses to help our understanding of the issues. If we do, we will use the email address you have given above.]
Yes

9. Would you like us to keep your responses confidential?
No

11. What aspects of the current a) curriculum, b) assessment system and c) qualification pathways should be targeted for improvements to better support and recognise educational progress for children and young people?

The teaching of food education in schools is insufficient, out of date, lacks a whole systems approach, and when it occurs, lacks crucial context about the most urgent challenge facing our food system - climate change and how we can transition towards healthier and more sustainable diets.

Globally, the food system accounts for about a third of all greenhouse gas emissions [1]. In the UK, food production currently accounts for a quarter of greenhouse gas emissions [2], and it's a problem for which, unlike energy, we don't have a viable technological solution. By the mid/late 2030s, as today's primary school children are leaving school, it will be the largest emissions sector and central to sustainable development and net zero [3]. Today's students need to acquire knowledge and skills in this area if they're to be informed citizens and rise to this challenge.

Schools are considered one of the best places for food education [4] and childhood is a crucial period when eating habits that persist into adulthood are formed and when ecological awareness is developed. Bringing food education and sustainability together in the curriculum creates an understanding and openness to dietary transition amongst the general public, and helps to equip the future workforce with the skills and knowledge needed for an expanding number of green jobs.

Currently in primary school, food education is taught through Design & Technology (via the Cooking and Nutrition strand), RSE and Health Education, and within the Science curriculum.

Problems with this approach include:

- There is no reference within the food education curriculum to sustainability or the links between climate change and food [5]. We believe that this needs to be urgently addressed and updated.
- With food education predominantly delivered through D&T, the subject is taught through a design lens, with food knowledge a supplementary learning outcome and with few details e.g. a lesson may focus on how to create a healthy smoothie, with no discussion on where those ingredients have been sourced from, seasonality or air miles etc.
- Although present in the curriculum, food education is siloed within subjects rather than considered as a whole, comprehensive subject.
- Food education lacks real world context.

In contrast, some countries eg. Norway and Sweden, explicitly connect food system impacts with planetary and public health.

We recommend:

- Adopting the approach currently taken in Norway where an explicit connection is made between food system impacts and planetary and public health [5].
- An approach similar to that taken in Australia and Norway where sustainability is taught as a cross-curriculum theme, which permeates every subject. This considerably improves the scope of how sustainability themes are addressed across the whole curriculum [5].
- The teaching of food education in Design & Technology (via the Cooking and Nutrition strand), RSE and Health Education, and within the Science curriculum, should be reframed away from an interpretation of healthy eating focused on nutrition, towards a focus on sustainable diets, which inherently include health.
- Specifically, food system resilience and climate impacts should be introduced as a topic within the Cooking & Nutrition strand of the Design and Technology curriculum.
- Students should be taught about the climate impact of different foods, and how climate change will affect the food that they eat.
- In addition to understanding the principles of nutrition and healthy eating, they should also understand the positive climate benefits of eating more plant-based meals.

[1] https://www.nature.com/articles/s43016-021-00225-9
[2] https://assets.publishing.service.gov.uk/media/65c0d15863a23d0013c821e9/2022-final-greenhouse-gas-emissions-statistical-release.pdf
[3] https://www.theccc.org.uk/publication/sixth-carbon-budget/
[4] https://openknowledge.fao.org/server/api/core/bitstreams/6f3162ea-1c1f-4699-a4b1-59a041e5f113/content
[5] https://www.mdpi.com/1660-4601/19/4/2019#B16-ijerph-19-02019

22. Are there particular curriculum or qualifications subjects* where: a) there is too much content; not enough content; or content is missing;
b) the content is out-of-date;
c) the content is unhelpfully sequenced (for example to support good curriculum design or pedagogy);
d) there is a need for greater flexibility (for example to provide the space for teachers to develop and adapt content)?
Please provide detail on specific key stages where appropriate. *This includes both qualifications where the government sets content nationally, and anywhere the content is currently set by awarding organisations.

As referenced in answer 11, analysis of the food education curriculum in primary schools found the current curriculum policy for food education in England does not include reference

to sustainability or the links between climate change and food [1]. We believe that this is out-of-date and needs to be urgently addressed and updated.

Over the coming years transformational shifts will be required in our diets and teaching around food education, whether in RSHE, D&T or Geography, needs to include this context. Students should be taught about the connection between the food system and climate change, the relative climate impacts of different food types, and that diets which are more sustainable (eg. including more plant-based food), can also be healthier [2]. Teaching how food waste can reduce emissions would also empower students to take positive climate action.

Within the national curriculum, the guidance on how cooking and nutrition should be taught within D&T, states, “Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life” [3]. However, across the key stages the guidance focuses on how to prepare healthy dishes, cooking competency, and understanding where food comes from, without reference to sustainability. Any teaching of cooking and healthy food choices which doesn’t reference sustainability, is failing to prepare children for the future.

In contrast to England, other countries such as Australia, Scotland and Ireland clearly connect food with the environment [1].

We are recommending:

- An approach to Cooking and Nutrition which is grounded in sustainability. Eg. children should cook with ingredients that are in season and/or have low emissions.

- Greater flexibility across the curriculum to build in a sustainability dimension that focuses on food and climate with specific learning outcomes at the end of KS2 and KS3/4.

- In RHSE students should be taught that eating diets which are healthy eg. more plants and whole foods, can also be healthy for the planet.

- A whole systems approach to teaching food education and sustainability which is spread across the curriculum.

- Students should be taught how emissions from food compare to emissions from other sources [4], in order to put this in the context and empower students who may want to take positive climate action.

Unlike subjects such as maths which develop subject progression of learning, the curriculum in relation to food education is also not adequately sequenced and lacks logic. eg. the D&T curriculum in relation to food suggests broad and similar content for KS1 and KS2, with little explicit advancement in food knowledge and skills. A good example of curriculum policy which is progressive in skills and knowledge can be found in Scotland, where a detailed curriculum shows what needs to be taught at which stage [6].

Evidence suggests that a clear progression of food education knowledge and skills across primary school, has a significant impact on food literacy [1]. In Australia and Scotland there is clear progression across year groups with extensive detail, advancing in complexity across each year of primary e.g. in Scotland students begin with simple food preparation techniques eg. peeling and slicing, before progressing on to weighing, baking and grilling [1]. Also in Scotland, food and health are broken down into detailed areas e.g. developing healthy choices, nutritional needs, keeping safe and hygienic and the journey of food [1]. Each detailed area includes detailed learning outcomes for each year of primary. In comparison in England statements in the Cooking and Nutrition curriculum such as "understand and apply the principles of nutrition and learn how to cook", lack detail [1].

We are recommending:

- Improved sequencing of food education which includes the impact of food choices on the planet and sustainable diets.

A report carried out by Jamie Oliver's Ako Foundation found that teaching of food education was inconsistent, with variation across both primary and secondary schools in terms of the frequency of opportunities to learn about food and nutrition and the quality of the teaching [5 via 1]. It also found there is no formal professional support for food education, with individual teachers and schools taking on the responsibility to interpret and deliver the curriculum in their own way.

We are recommending:

- Clear guidance and signposting for teachers around how to embed the environmental impact of food across teaching of the subject.

[1] https://www.mdpi.com/1660-4601/19/4/2019#B16-ijerph-19-02019
[2] https://www.un.org/en/climatechange/science/climate-issues/food#:~:text=Food%20needs%20to%20be%20grown,and%20contribute%20to%20climate%20change.
[3] https://www.gov.uk/government/publications/national-curriculum-in-england-design-and-technology-programmes-of-study/national-curriculum-in-england-design-and-technology-programmes-of-study
[4] https://ourworldindata.org/grapher/per-capita-ghg-sector
[5] https://www.akofoundation.org/wp-content/uploads/2017/11/2_0_fell-report-final.pdf
[6] https://education.gov.scot/media/5p4dvqvm/health-and-wellbeing-eo.pdf

25. In which ways does the current primary curriculum support pupils to have the skills and knowledge they need for life and further study, and what could we change to better support this?

Addressing the challenge of climate change will require significant change in our diets and how we produce food. The UK government has said that in order to strengthen awareness of and build consensus on tackling climate change, education initiatives at all stages of life are necessary [1]. The Department for Education's strategy for sustainability and climate change states that "through their learned and lived experiences from early years to further and higher education, we will provide opportunities to develop a broad knowledge and understanding of the importance of nature, sustainability and the causes and impact of climate change and to translate this knowledge into positive action and solutions" [2].

By the mid/late 2030s, as today's primary school children are entering the workforce, food will be responsible for more emissions than any other sector if we stop burning fossil fuels and diets remain relatively unchanged [3].

At the same time the UK's Climate Change Committee has suggested that Britain will be required to cut its meat and dairy consumption by up to 35% by 2050 if the Government is to meet its emissions targets [3].

Embedding teaching about food and climate within the curriculum will equip students with the contextual knowledge they need to understand why changes to their diets will be necessary and to make food choices that are good for them and the planet.

In addition to this the UK government has set an ambition in its net zero strategy for 2 million green jobs by 2030. The strategy commits to "providing children and young people with the high-quality education and training they need to work in a future green career." [4]

In terms of food, new jobs will be created across the supply chain as the sector focuses on developing and promoting sustainable farming and food production.

We are recommending:

- Children should be taught about food via sustainable diets, providing context to food education that is meaningful and focused on life skills that will help them to develop habits which support their health and the planet.

[1] https://www.gov.uk/government/publications/the-uks-nationally-determined-contribution-communication-to-the-unfccc
[2] https://www.gov.uk/government/publications/sustainability-and-climate-change-strategy/9317e6ed-6c80-4eb9-be6d-3fcb1f232f3a
[3] https://www.theccc.org.uk/publication/sixth-carbon-budget/
[4] https://assets.publishing.service.gov.uk/media/6194dfa4d3bf7f0555071b1b/net-zero-strategy-beis.pdf

28. To what extent does the current primary curriculum support pupils to study a broad and balanced curriculum? Should anything change to better support this?

Focusing assessment in primary schools on maths and english, means that teachers are predominantly focused on pupils' performance in these subjects. As a result, there is less time and attention paid to other areas of the curriculum.

Rewarding teachers/ schools for performance beyond these core subjects, would offer them the flexibility and freedom to build in teaching about food and sustainability across the curriculum, thereby empowering children to cope with the challenges of their changing world.

Embedding issues around food and sustainability across the curriculum would not necessarily add new content, but instead could add real world focus eg. in maths, students could calculate carbon footprints.

Such an approach is taken in Australia where sustainability is embedded across the whole curriculum, and is taught through each individual subject [1 via 2].

An example of how these issues can be explored in a way that touches on cross-curricular subjects is below.

Rethink Food Planet Pizza Case Study:

In February 2023 academics from different universities across the UK and people from various organisations including Rethink Food, met for the Synergy Grant Workshop, hosted by the University of York. Their collective aim was to make research and innovation work more accessible to the public, including the greenhouse gas emissions of food. The Planet Pizza resource idea was conceived to raise children's awareness of the impact of food choices on climate change and to support them in developing climate literacy.

Planet Pizza is an investigative resource for Key Stage 2 students. It provides an immersive and purposeful learning experience, placing learners in the role of the expert Food Scientist to create a climate-friendly pizza. A pizza with lower emissions than the current best-seller Pepperoni Pluto (1476g CO2e).

The main aim is to raise awareness of the impact of food choices on the environment by comparing food in terms of greenhouse gas emissions and using this to rethink food choices. Using action learning methodology to encourage critical thinking, the children are presented with the problem, supported to explore and discuss solutions, and empowered to take positive action.

The children discuss the different topping choices and compare their emissions value, and then calculate the total emissions of all the ingredients. Incorporating food design, sustainability, maths and critical thinking, it allows students to explore the issue of food and climate change, as well as thinking about the impact of food production. An animation aimed at students, and a teacher pack (both created by Rethink Food CIC) give teachers the guidance and confidence to deliver the activity. The activity incorporates maths, science, design and technology and develops critical thinking skills [3].

The Planet Pizza resource was tested in 10 schools, 10 educators and 100 pupils aged 7-11 years. When the children were asked if they would recommend Planet Pizza to their peers

96% said YES they would and 4% said MAYBE they would. The children scored Planet Pizza an overall 4.5 out of 5 stars. 100% of Teachers said they would recommend the resource to other schools and gave it a 4 out of 5 stars.

The practitioner and learner feedback expresses the enjoyment experienced by the children through the style of the task, the activities within it and the engaging resources. Teachers and pupils express the clear educational impact of the resource, by completing Planet Pizza there is a raised awareness of the impact of food choices on the planet.

Specific Teacher feedback highlighted that food climate education is missing from the current curriculum in England and that it is vital that it is included in the future statutory curriculum offer.

"The children enjoyed it and were definitely more aware of how food can impact on climate change".

"Children enjoyed creating their pizzas while thinking about impact on the climate which they stated that they had not thought about before".

"There were long discussions between the learners about whether to choose toppings that they would normally select, compared with those with lower impact on the planet. It made the children think hard about the moral choice against what they were used to eating."

"It was brilliant at making the children think about what they eat on a regular basis and what impact it has on the environment."

"It gave us a chance to discuss carbon footprints and food miles in a fun way".

The use of words such as 'surprised' 'shocked' and 'wow' by the children shows that the impact of food choice is indeed a new concept to them and that there is a clear need for this and further resources to support the development of food citizenship and climate literacy in schools.

Specific pupil feedback included:

"I was surprised that the food you choose can change the world"

"We were like WOW at some of the differences in emissions"

"I didn't know about greenhouse gas emissions for food"

"I didn't know what emissions were but I do now"

[1]https://www.australiancurriculum.edu.au/f-10-curriculum/cross-curriculum-priorities/sustainability/#:~:text=In%20the%20Australian%20Curriculum%3A%20Science,different%20time%20and%20spatial%20scales
[2] https://www.mdpi.com/1660-4601/19/4/2019#B16-ijerph-19-02019
[3] https://www.rethinkfood.co.uk/planet-pizza