Editorial

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The Education Endowment Foundation (EEF) has recently produced a guidance report detailing six recommendations for improving primary science (Luxton & Pritchard, 2023). This guidance draws upon a systematic review of approaches where studies included a counterfactual (control) group (Bennett *et al,* 2023), together with teacher focus groups, a stakeholder guidance panel and other EEF guidance reports.

Their six recommendations for primary science practice are:

- Develop pupils' scientific vocabulary;
- Encourage pupils to explain their thinking, whether verbally or in written form;
- Guide pupils to work scientifically;
- Relate new learning to relevant, real-world contexts;
- Use assessment to support learning and responsive teaching; and
- Strengthen science teaching through effective professional development as part of an implementation process.

(Luxton & Pritchard, 2023, p.4)

The six recommendations could feel like a tall order for many primary and early years settings, which also have all the other subjects vying for attention. However, many of the instructions could support practice across the curriculum and may link to other initiatives in school. It would also be important for practitioners and science leads to consider where practice is already strong in their setting and perhaps select just one area on which to focus for future development. This is further discussed in the latest EEF podcast (EEF, 2024).

Articles in this issue of *JES* link to a number of these recommendations, with each including a strong overlap with one in particular. In line with EEF recommendation three, the first two articles are based around the theme of guiding enquiry and working scientifically. **Mohd Syafiq Aiman Mat Noor** provides guidance for enquiry with close consideration of materials, using cups as an everyday stimulus with children in Malaysia. Next, **Christine Preston** explores how her work as a practitioner in kindergarten and in support of teachers in Australia has led to the development of the Sci-5 programme, including a structure for supporting 5 year-olds with their emergent science learning.

In their research review, **Rebecca Donnelly** and **Helen Bridle** explore outdoor learning in the early years, considering how 'forest nursery' can provide an environment where stereotypical gender norms can be less prevalent. Forest nursery places learning in a real world context (EEF recommendation four), but this article also raises questions about challenging the *status quo,* making it important to consider how real-world links can support inclusion and the building of science capital (Nag Chowdhuri *et al,* 2021).

The final two articles share a climate theme. **Lewis Morgan** and **Sophie Nelson** explore how children can become 'climate ambassadors', working with their teachers to develop understanding of climate change, climate justice and sustainability. Whilst **Lucy Wood, Heather King** and **Melissa Glackin** share an evaluation of a pilot climate change project where schools worked collaboratively with external partners to co-design sustainable products and solutions to support the future climate. Both articles place practitioners and children in an active role, applying their knowledge to real-world contexts, in line with the EEF's fourth recommendation.

Parallels can be made between each article and at least one of the EEF guidelines, with this issue particularly focused on recommendations three and four. *JES* encourages authors to get in touch with the Editor at the e-mail below, to provide different viewpoints and explore other aspects of primary and early years science education practices.

References

Bennett, J., Dunlop, L., Atkinson, L., Glasspool-Bird, H., Lubben, F., Reiss, M. & Diepen, M. (2023) *A Systematic Review of Approaches to Primary Science Teaching*. London: Education Endowment Foundation. Available at: https://educationendowmentfoundation.org.uk/education-evidence/evidence-reviews/primary-science

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