

# Diversity within the curriculum

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Diversity within the curriculum is a focus that has become more prominent since May 2020, but such a focus within the science curriculum is nothing new. For example, in February 2020 Teach First launched their STEMinisim campaign to address gender gaps within STEM careers as ‘49% of British adults were unable to name a female scientist that was dead or alive’ (Teach First, n.d.). The charity also revealed that the National Curriculum for GCSE Science does not feature the name of any woman. In addition, a review of ‘three double science GCSE specifications from the major exam boards’ highlights this comparison – two women are mentioned (Rosalind Franklin and Mary Leakey), whereas over 40 male scientists were named or had concepts and materials named after them.

What subtle message does this absence convey? It’s no wonder that Toni Schmader from the University of British Columbia states ‘Stereotypes reflect what people see in everyday life and can play an important role in constraining children’s beliefs of what they can/cannot do’. They might influence whether female students see a place for themselves in science, and whether they look to scientific careers at all (Yong, 2018).

Key events during the pandemic have reinforced the importance of diversity within the curriculum. But what if you’re unsure of how to do this in a meaningful and coherent way for the science curriculum being implemented within your school? Hearing the need to diversify our curriculum can feel daunting. So let’s reframe it – how can we make the curriculum more relevant for our students with the examples and role models who we use?

What is meant by the term ‘diversity’? ‘Diversity’ can mean different things to

different people, but can be generally taken to mean ‘the inclusion of people of different races, cultures, etc’ (Merriam-Webster, 2009).

When we consider the nine characteristics of diversity as outlined in the Equality Act (2010), the above definition can be seen as being too narrow, therefore a more comprehensive definition is: ‘accepting and promoting people’s differences; to raise awareness and make sure that all individuals are treated equally and fairly. This is regardless of their age, gender, religion, disability, sexual orientation, or race’ (Deer, 2020).

Representation within science is important. I will never forget one conversation with a young science teacher within a science department I supported who asked whether I taught in school x as a science teacher. I was taken aback by her recollections as a child of seeing someone that looked like her and, though I never taught her as a student, years later she went on to do the same role.

In what ways could we diversify a science curriculum to ensure that there is representation?

- Diverse representation within text/ videos/website links shared;
- Diverse role models as part of STEM initiatives in your school; and
- Scientific contributions from under-represented groups highlighted all year round (as opposed to only during Black History Month).

The danger is that these practices can lead to ‘tick box’ implementation rather than a holistically, integrated curriculum implemented year on year. It is essential that the aim is to create a ‘curriculum that embraces, celebrates, highlights and foregrounds diversity’ (The Headteacher, n.d.).

Below is an adaptation of questions (Deer, 2020) that can be used to review the diversity reflected within your science curriculum, which will help to ensure that it meets the objectives above:

- Is the diversity of your students reflected in your lesson plans?*
- Is the language in your learning materials non-racist/sexist/discriminatory?*
- Do you review your resources/lesson plans regularly?*
- Are negative attitudes actively challenged?*
- Do you promote multiculturalism in lessons?*
- Do your resources use multicultural themes?*
- Do you actively avoid using stereotypes in classroom resources and examples?*
- Do you actively reference and use examples from different traditions, cultures and religions?*
- Are you doing your best to challenge society’s stereotypes?*

The benefits of increased diversity and representation within the science curriculum include greater understanding of and between different cultures, and school community enrichment through shared experiences of different people. Diversity is therefore a strength, which needs to be reflected within our curriculum.

## References

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# Wildhood – the first ASE Book Club

Sarah Longshaw

It all started at the 'Good Read Guaranteed' online TeachMeet in February 2021, where we were discussing the texts that we enjoy and use in our teaching; during that discussion the idea of an ASE Book Club was born. We chose *Wildhood* as our first book to read – we wanted something that would have a wide appeal and, since many of us are either teachers or parents of adolescents and we have all passed through this stage ourselves, we thought that this book would be popular.

Furthermore, we knew that the book was a good one, since it had been named ASE Book of the Year in 2020. At this point, we could not have imagined that authors Barbara Natterson-Horowitz and Kathryn Bowers would not only be able, but also willing, to join us.

Our first ASE Book Club meeting thus became an author visit as well. Barbara and Kathryn have been working together for more than 13 years and theirs is a reading, writing and teaching partnership, which looks at animals in an attempt to gain a better understanding of humans. Barbara, whose background is in cardiology, illustrates this with a story about imaging a chimpanzee's heart and finding it identical to that of a human. In an attempt to help adolescents gain a better understanding of themselves, Barbara and Kathryn (a science journalist) looked at what was known about adolescence, that

transitory period between childhood and becoming an adult, both in humans and other animals. They then used what they had learned to try and identify biological connections.

Focusing on a developmental phase and comparing across species was fascinating, finding the commonalities that exist and discovering that similarities across species can be greater than within them – thus finding horizontal rather than vertical relationships. But how did this translate into *Wildhood*? Barbara and Kathryn looked at the research to establish whether animals have a period of adolescence; they explored the difference between adolescence and puberty, used the process of building phylogeny to explore similarities and found themes emerging, which translated into the storytelling.

Ursula, Shrink, Salt and Slavic, the characters through whom we explore the themes, were all animals that were tracked and studied over time and whose stories illustrate the themes of safety, status, sex and self-reliance. There are the stories within *Wildhood*, but we also learned about the animals that didn't make the cut – a lemur born in the US and re-wilded to Madagascar and a successful life alongside his offspring, and a dormouse, preserved within a drawer at the Museum of Comparative Zoology in Harvard, who prompted the search for more similar-aged specimens.

We also heard about Barbara and Kathryn's way of collaborative working and the success from having contrasting styles – fast versus slow and reductive versus broad – the latter being particularly useful around editing, when the cutting of chapters was seen not as wasteful, but as an essential part of the process. The removed copy provided the scaffolding without which the project could not be completed.

We enquired about future projects – a possible study of old age to give a better understanding of unexamined assumptions. We discussed the animals for which we had developed a particular fondness whilst reading *Wildhood* – Shrink touching many of our hearts for a whole host of reasons.

For our first ASE Book Club, I have to admit that this one is going to be a hard act to follow – it was an absolute pleasure to spend time with Barbara and Kathryn, to not only hear their stories, but to have them express their interest in our own experiences and interpretation too. If you've not read the book – I would recommend it. In fact – I am about to read it for a second time, with the benefit of the insights shared by its authors.



*Wildhood*, published by Scribe UK is available from the new Millgate/ASE Bookshop, priced £16.99. Visit [www.millgatehouse.co.uk](http://www.millgatehouse.co.uk) for more details.

Sarah Longshaw is currently seconded from her ASE Field Officer role to work on projects for ASE.

[www.teachfirst.org.uk](http://www.teachfirst.org.uk). (n.d.) *With half the population unable to name a female scientist, Teach First argues STEMism matters* [online]. Available at: <https://www.teachfirst.org.uk/press-release/half-population-unable-name-female-scientist-teach-first-argues-steminism-matters>

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