

Teaching science through everyday issues

Keith Ross

We follow the December issue on ‘science and society’ with a similar theme but closer to home – *everyday science*: it celebrates the science we derive from everyday objects, happenings and issues; it stresses the importance of teaching science as a unified set of ideas and methods; and it urges us to teach science in an integrated way – exemplified by Twenty First Century Science and the Salters’ approach (see *Websites*).

Many secondary teachers inherit students from primary school who are enthusiastic and motivated and have come to love science (see Livesey and Hoath’s article on p. 41). Indeed, primary science, as John McCullagh and Andrea Doherty suggest in their ‘primary school perspective’, gives a good overview of the people, places and materials we can draw on to give meaning to our teaching. The problem is that as soon as the students enter secondary school they begin to think that science only happens in the science lab and so, at 16+, they sometimes leave the science they’ve learnt in school behind them – the science doesn’t become part of their ‘science capital’.

This themed collection of articles all started when I submitted to *School Science Review* my little piece ‘A leaf floats down in autumn’ with the cartoons showing the abandoned science of our school leavers. The Editor, Geoff Auty, suggested it could be one of many articles that encourage us to relate the science we teach to the everyday happenings experienced by our students. His own contribution is set firmly at home – ‘Applied science in the kitchen’. Julie Brown, in ‘Including real-life global contexts within science teaching’, goes to the wider world and looks at the everyday lives of those living in less materialistic places to show how this generates great resources for understanding science and empathising with the lives of others less fortunate than those in the consumer societies of the West. Peter Borrows is well known to many for the helpful way he finds that ‘Chemistry doesn’t just happen in test tubes’ but in the brick, walls and kitchen sinks of our daily lives. Matt Livesey, a teacher of physical science, set a homework task asking students to work with their parents or carers to find examples of science within the home environment: ‘Using homework to develop science capital’. This trial was undertaken in consultation

with Leigh Hoath, who describes the background thinking to the ‘science capital’ approach. It is significant that the students omitted to include many biology links.

We come across this problem, caused by teaching science as separate subjects, in ‘Using Urban Science to teach climate change’ by Maarten Tas, Margaret Fleming and Richard Dawson whose homework task needed students to see science as a unified set of ideas that are all easily related to daily life. Sandrine Bouchelkia, in ‘How to provide clear links...’, also hopes that our students will eventually associate science in schools with science outside school. Jessie Mytum-Smithson was seconded to the National STEM Learning Centre to support teachers in the classroom to develop a ‘science capital’ approach to their teaching and (with Mary Howell) discusses ‘...small tweaks to teaching science...’ to include an everyday perspective. My second short piece on ‘...rates of reaction...’ and John McCullagh’s ‘...analysis of Milk of Magnesia...’ offer everyday links to chemistry topics.

This may be all very ‘old hat’ for readers of *SSR* but it is a message we need to spread among our colleagues. I end with some thoughts from our authors:

It is (or arguably should be!) ingrained into every science teacher’s lesson plans to try to contextualise the information and teaching content, making it as relevant as possible to the lives of the students. (Matthew Livesey and Leigh Hoath)

We have a duty to show our students how the science we learn is relevant to this world. (Sandrine Bouchelkia)

For some students, the science they study up to GCSE (age 16) will be the end game for them, so in my opinion it is vitally important that by then they connect the science at school with their everyday lives. (Julie Brown)

*This special issue of *SSR* celebrates the science we derive from everyday objects, happenings and issues. It stresses the importance of teaching science as a unified set of ideas and methods.* (Peter Borrows)

Websites

Salters’ Science: www.stem.org.uk/resources/collection/3386/salters-science.

Twenty First Century Science: www.york.ac.uk/education/research/uyseg/projects/twentyfirstcenturyscience.

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