

About this issue:

Welcome to our commemorative issue. In this issue, we look back at eight articles written for popular science audiences and ask: What would we add to or change about these articles to make them relevant to the classroom practice of a middle school science teacher? Take a look. If any of these articles find a way into your classroom practice, tell us how. Experiences that can be of help to other teachers will be featured in our next issue.

To:

- Share your feedback on this issue, write to us at: iwonder@apu.edu.in.
- Download a soft copy of this issue, visit: <https://azimpremjiuniversity.edu.in/iwonder>.
- See details on our submission guidelines, turn to the Write for Us section on page 93-94 of this issue.

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Editorial

The National Curriculum Framework (NCF) 2023 emphasizes the need for students to understand connections between science, technology, and society and the *"ethical aspects and implications"* of these connections. This aim has become more urgent as we grapple with deepening ecological, social, and economic inequalities. Why is this important? Science can equip us with the knowledge, skills, and capacities to understand the world around us. It can also help us examine and assess the impact of our actions on each other and other beings with whom we share the planet. This understanding can allow us to use science to arrive at ways to respond to the resultant changes. Teachers face many challenges in meeting this aim. Ethical issues such as fairness, justice, and equality do not find a place in traditional school science curricula. Students in many of our classrooms come from diverse social, economic, political, and ecological contexts with their own knowledge and perception of their worlds. They grapple with issues of fairness and justice not just in their environment, but also at a personal level in their homes and communities. This is particularly so for students from communities that have been historically marginalized from science education. Many of our schools are constrained by the limited resources, equipment, and laboratory infrastructure available to them. How can all students, irrespective of their context, learn science in a way that helps them engage with real issues in their communities? What approaches can we, as science teachers, use in our classrooms to help meet this aim?

In her article titled 'How Science Teachers can Explore Social Justice with Students', Day Greenberg presents a problem-based learning approach to illustrate how middle school students' knowledge of textbook concepts like water pollution or acids and bases can be used to build responses to local environmental pollution issues. She describes three specific actions through which teachers can empower students to use their understanding of science to take *"action for social justice"* in their communities. Day argues that if science education is to empower students in this way, then social justice must be the goal and *"science (knowledge and practice) the tool"*. She asserts that it is possible to integrate social justice into every type of science classroom. But, for this, the teacher must *"respect students' abilities to make change in the world"*. Accompanying Day's article is a Teacher's Guide titled 'Mapping Social Justice to the Science Curriculum', in which I have shared a few possibilities for students to examine social justice issues around topics in the National Council of Educational Research and Training (NCERT) middle school science curriculum. Two articles in this issue present ways teachers can use low-cost but robust equipment, constructed with materials easily available in school or at home, to design investigations and experiments that support science learning. In her article titled 'Daytime Astronomy with Self-constructed Equipment', Prajval Shastri presents ideas for activities with which teachers can not only extend their students' understanding of shadows and pinhole cameras, but also build their ability to be resourceful learners. In their book review titled 'Elementary, my dear Watson', Ishaan Raj and Sangeetha Raj recommend a book with many other such experiments with easily available materials that teachers and students can use to explore concepts around sound, acids and bases, and the properties of matter.

What are some of the issues in your area that you think can be integrated into the science classroom? Share these with us at iwonder@apu.edu.in.

Radha Gopalan
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