Climate education should be taught in schools

And not just in science but woven across all subjects because climate change involves so much more than science.

Students of all ages filled the State House during the Youth Climate Strike in Boston on Sep. 20, 2019.

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By Anita Soracco

COP28, the 28th annual United Nations climate summit that starts Nov. 30 and runs through Dec. 12, will be focused on how to limit and prepare for future climate change. Meanwhile, the most frequent sentiment among my college-level environmental science students is, “Why haven’t I been taught this before?”

Over the past 13 years, my students have consistently expressed disappointment and dismay that they hadn’t previously been taught about the climate crisis or the many environmental justice issues that plague their communities as a result. Climate change is threatening their futures; they see the world is on fire and yet very few of them have had any formal climate change education before entering my classroom. It’s not just the students who are upset; an NPR/Ipsos poll

conducted in 2019 showed that more than 80 percent of US parents surveyed support the teaching of climate change in schools.

Confronting climate change requires a multifaceted approach of mitigation and adaptation measures such as limiting deforestation and improving infrastructure to deal with flooding and storm surges. Several large-scale systemic changes need to be made, ranging from better environmental policy to investment in renewable energy like solar, wind, farms, and geothermal power. But as Carl Sagan once said, “Our passion for learning … is our tool for survival.’’ Climate change education should be a compulsory and standardized part of the national curriculum, starting at the elementary school level. And not just in science but woven across all subjects because climate change involves so much more than science.

A 2020 study on the role of climate change education on individual lifetime carbon emissions showed that “climate change education can be as effective in reducing carbon emissions as other solutions such as rooftop solar or electric vehicles.’’ Through education, students feel empowered to make a difference, which impacts their future choices. The study showed that students who completed a one-year university course reduced their future individual carbon emissions by approximately 2.86 tons of CO2 per year. According to the EPA, this is the equivalent of planting approximately 40 trees. Consider the impact if that education began in kindergarten instead.

Next Generation Science Standards, published in 2013, advised that human-made climate change be taught from fifth grade onward in all science classes. The standards are not mandatory and therefore each state has the authority to decide what is taught or not taught. This creates large disparities in climate change curriculum nationally. As Glenn Branch, deputy director of the National Center for Science Education, noted, “the fact that human-caused climate change is included in a state’s science standards doesn’t mean that teachers in that state do teach it.’’ No wonder so many of my students feel grossly unprepared.

What are the primary challenges that hinder climate education in schools? Politics and funding.

In 2023, the Florida Department of Education authorized classroom use of climate denial videos from a conservative group known for promoting misleading science. In some states, the fossil fuel industry provides funding for books or professional development, which may lead to false or biased narratives entering the classroom. To educate about climate change effectively, schools need funding for teachers to receive appropriate training and purchase reputable materials.

New Jersey was the first state to mandate climate change education, starting in kindergarten, as of 2020. Most recently, Connecticut included climate change as part of the required science curriculum for grades 5 through 12. These measures help protect funding from budget cuts or other political disruptions. Yet even when states fund climate education initiatives, school districts that serve marginalized communities may not receive the same opportunities, despite being at higher climate risk.

In Massachusetts, there are currently a few bills regarding climate education reform. House Bill 470 would create a “Climate Science Education Trust Fund,” which would help fund materials and professional training. House Bill 496 involves amending the science standards to include climate justice education at the elementary and secondary levels. Neither of the bills has seen much momentum.

At present, education is being severely underutilized as a mitigation tool in the climate crisis. Making climate education a required and measurable part of the national K-12 curricula, across content areas, needs to be a priority. Funding should be appropriated in an equitable manner so that all students receive a comprehensive climate education, regardless of the community they live in. It is imperative that the next generation understands the complexity of environmental problems and the social justice issues involved. We need them to develop intersectional solutions and advocate for climate-friendly policy.

The scientific consensus is clear and indisputable: human-made climate change is real, it is happening, but there is hope. As one of my students put it, “considering we all live on this planet, shouldn’t we be required to learn how to take care of it?” Now that’s a lesson the attendees at COP28 — and Massachusetts policy makers — should consider.

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