

[THEME MUSIC]

It's *Inside* EHP, I'm Ashley Ahearn.

AHEARN: From our first homemade baking soda volcano for the sixth-grade science fair to the frogs we dissected in high school, science is an integral part of our education in this country.

But for years, the United States has lagged behind other nations in science achievement. A recent report suggests too few U.S. students are prepared to become engineers, scientists, and physicians, raising concerns that the country will lose its competitive edge in science and technology which is critical for preserving U.S. strategic and economic leadership.ⁱ

Well, *Environmental Health Perspectives* is trying to do something about the problem. Dr. Bono Sen is the manager of education and outreach at *EHP*, and she's here to talk with me about the journal's Science Education Program.

Dr. Sen, thanks for being here.

SEN: Glad to be here, Ashley.

AHEARN: Why don't you start by telling me how this program works?

SEN: So what we have done is we have taken the content that is published in our journal, both the research articles as well as the news articles, and created new content from those for a different audience and in this case specifically high school students and undergraduate students. And each lesson has a reading associated with it, so the students have to read an article—sometimes the news articles could be three or four pages long, sometimes it could just be a couple paragraphs long.

AHEARN: So these lesson plans give students hands-on activities to do with the information they're provided.

SEN: Exactly. What we are trying to do is trying to connect the students with real-world examples to learn about the connection between their health and their environment, and we're hoping that through this medium the students will gain environmental health literacy and also become informed citizens.

AHEARN: Could you give me some examples of some of the lesson plans?

SEN: Yes, for example we have one which is called "Wildlife Study Comparison," and what it is, is it's looking at two different experimental designs which scientists use in the field. So it brings the students closer to the scientists, and they're using real-life examples.

Another one is called "The Buffer Zone: Acid-Based Chemistry in the World's Oceans," where the students learn about chemistry concepts. You know—What's an acid? What's a base? What's pH? What's a buffer? But then they also learn about what's going on in our oceans today because of increased carbon dioxide in our atmosphere—namely, how the coral reefs are being affected—and so, once again, it brings acid-based chemistry into perspective for the students.

"Mapping the Air in Your School" asks the students to do a hands-on experiment where they go around in their school and detect relative humidity and moisture content in the classrooms to discern if there could be some air-quality issues in their school.

AHEARN: Dr. Sen, I saw one lesson about greenhouse gases.

SEN: Oh, yeah. So there's one, it's called "The Kyoto Protocol: What Should We Do?" In this lesson students look at carbon dioxide emissions from the top five carbon dioxide producers in the world, and they are asked to look at the differences in how countries,

based on these numbers, decide whether they should ratify or not ratify the Kyoto Protocol. So it exposes the students to [the question of] “What is the Kyoto Protocol, and why should we even think about it?” And it’s in the context of looking at graphs, learning how to interpret graphs, and learning how to interpret these critical science policy–related issues.

AHEARN: What are your long-term goals for this program?

SEN: Well, the long-term goals... I think we would like to see more and more environmental health topics being covered in the classroom. We would like to see that more and more people become aware of this connection, this interconnection between their health and the environment. And we want to just make sure that the public and our citizens can make informed decisions, because kids who are now in, say, elementary school, when they become young adults they’re going to have to make some critical decisions in their lifetime, namely related to, say, climate change issues. So if they have an understanding of the science behind it and how these changes will affect them, then the hope is that they will make better decisions.

AHEARN: Why is learning about environmental health important?

SEN: Sometimes I think there is this tendency that we think that we are separate from the environment. Many people don’t think about that connection as often as they need to. I think educating our students and our communities about this connection is very important, especially at this critical juncture where not only our health but the health of our planet is also at risk here.

AHEARN: Thank you so much, Dr. Sen.

SEN: Thank you, Ashley.

AHEARN: Before you go, where can people go to get these lesson plans?

SEN: So they can just come to our website, www.ehponline.org, click on the Science Education icon, and it will take them right to where all our resources will be.

AHEARN: Dr. Bono Sen is the program manager for education and outreach at *Environmental Health Perspectives*.

And that's *Inside EHP*. I'm Ashley Ahearn. Thanks for downloading!

[THEME MUSIC FADES UP AND OUT]

References and Notes

ⁱ Committee on Prospering in the Global Economy of the 21st Century; Committee on Science, Engineering, and Public Policy. *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. Washington, DC:National Academies Press (2007).