

A photograph of four young men in a garden. One is standing in the background, while three are bent over, working with plants in the foreground. They are wearing casual clothing like t-shirts and jeans. The garden has rows of plants and green hoses on the ground. The background shows trees and a house.

# Education for Sustainability in Action

## Voices from the High School for Environmental Studies in New York City

*Prepared by PEER Associates, July 2021*

This case study is based on interviews and written reflections from High School for Environmental Studies students and educators, collected and written up by a program evaluator from PEER Associates.

## Introduction

The pace of change is accelerating, and where it is taking us is increasingly hard to predict. Technology is revolutionizing the future of education and work and creating an interconnected and interdependent global society in ways that would have been hard to imagine not long ago.

The job of our high schools, to prepare students for postsecondary training and education and entry

into the workforce as well as responsible civic participation as local and global citizens, has never been more important or complex.

The High School for Environmental Studies (HSES), with an enrollment of 1,300 and located in the Hell's Kitchen neighborhood of New York City, has taken a broad and ambitious approach to the challenge. While the school has always had an environmental focus, exposure

to the United Nations' Sustainable Development Goals (1) at a professional development workshop at Shelburne Farms inspired the current school leadership to rethink their definition of environmentalism. According to the school's principal, "Once I had an idea of what the larger picture should look like, what happened was to really define our mission and our vision based on sustainability." This updated mission, shared on HSES' website, now reads:

*The mission of HSES is to promote environmental integrity, social equity and economic prosperity for all learners through challenging hands-on collaborative learning experiences that promote citizenship, scholarship and leadership within our community and the world at large.*

With the newly defined mission in hand, the school began to realign their curriculum, their campus practices and culture, and their partnerships to support this new mission, and to find ways to connect the teachers' passions to it.

The approach taken at HSES is known as Education for Sustainability (EFS). As articulated in the school mission statement, sustainability is at the intersection of environmental, social, and economic justice. Sustainability is the unifying

theme that integrates a dynamic curriculum which centers students and provides opportunities for action and hands-on learning in their local communities. Starting with building knowledge of and experience with the natural and human communities in which they live, students grow to understand the connections with broader systems and begin to see themselves as active citizens, with the ability to participate and make positive contributions.

Reviews of research on EFS have found that it can yield academic, health, and socio-emotional benefits for students, and can also bring benefits to the school community and the environment. (2, 3)

The best way, however, to get a sense of what EFS is about is to hear it from an HSES student:

*I find learning history and acknowledging the mistakes of our generation and past generations is really important to become a local, national, and global citizen. It is incredibly important to know the place and impact you hold on the world as you live. At HSES, through classes and meetings, I am constantly encouraged to reflect on my place in the world and how I can impact my environment. All of the knowledge and understanding I gain will allow me to be a global citizen that can make great changes in the world.*

## Education for Sustainability in Action at HSES

Education for sustainability is an approach that draws on multiple pedagogies, including place-based education, project-based learning, and service-learning. What these pedagogies share is a focus on integrating meaningful and relevant content into the curriculum, taking action, elevating student voice, and creating reciprocal partnerships with community-based organizations. (4, 5, 6)

The sections that follow provide examples of education for sustainability in action at HSES.

### Integrating Sustainability into the Curriculum

Many practitioners describe the “big ideas” of EFS (7), such as interdependence, systems, cycles, and diversity, as themes that can be used to teach both content and skills while making connections between the school and community.

HSES has core classes that are focused on environmental studies where sustainability themes are readily integrated,



such as an environmental writing class. Inspired by professional development in education for sustainability, the environmental writing teacher refocused the curriculum on food and food justice, “finding ways to tie in what we do in the classroom to what’s going on in the city and what’s going on in the larger world.” According to the teacher, this new approach was educational and inspiring for both him and students:

*I really enjoy how creative the students are, the connections they make, and how empowered they describe feeling when they learn about something like the history of food justice that they didn't know about. And many, many times, I didn't know about it either, until I started doing the research for the class.*

The goal at HSES is to weave sustainability themes as much as possible into all classes. When students experience their education as relevant to their interests, concerns, and lived experiences, they are more motivated for their studies and more engaged with the content (7, 8).

Math is a subject that many students find difficulty in connecting with. Innovative teachers at HSES are finding ways to increasingly connect the core academics with real-world applications that students can relate to. One math teacher has developed the algebra curriculum so that “each unit has a project that goes along with it, that relates to the real world in some way.” These projects have addressed a diverse range of topics including heart rate, population, sports, college admissions, and gender and racial representation in STEM. The teacher described one opportunity to dive into urgent and immediate issues,

*This year, for instance, we did a project about fair wages during our last unit. We talked a lot about how families were impacted by the pandemic and about the protests that have been going on in order to stop rent collection. Next, we had them look at a bunch of different New York City families, the families' hourly wages, and the number of people in the household. The students were then able to calculate salaries and compare it to the cost of rent in their area. We had conversations along the lines of 'You know, people say that 30% of your income should go toward rent.' And we asked them 'Well, Is this fair? Is this doable for most families?' So it's just about finding ways to relate the math curriculum to things that students can actually see outside their windows. The project ended with each student writing a letter to a community board member using the evidence collected during the project to state why the cost of rent should be lowered. We also provided links to real petitions and resources that are out there that people can be a part of to work toward change.*

Chemistry can also be a difficult subject when it comes to student perceptions of relevance, but according to one student, HSES is rising to the challenge.

*I had no interest in chemistry, but it was one of my favorite classes in freshman year. Part of the reason, probably a big part, is because [the teacher] was able to tie it back to things that I could see. Chemistry can be really hard to understand, because it's all, you know, happening microscopically. So being able to be, like, this is chemistry, but this is an oil spill, and this is the climate, and these are the effects, was kind of like, 'Oh, okay, chemistry can be pretty fun and it can be pretty interesting.'*

*Not a lot of teachers are able to kind of connect what they're teaching to what we live through.... So I was able to understand it more, which I think it's just, it was amazing.*

Teachers at HSES reported that they plan to continue to adapt their curriculum to integrate more sustainability themes and make

more active connections with the community to create high levels of student interest and engagement across the curriculum.

## Student Voice

Elevation of student voice is central to many of the pedagogies used in an EFS approach. Broadly described, student voice is about educators listening to and acting on the interests, opinions, perspectives, and insights that students offer about their educational choices and experiences. Increasing students' agency in their education can bring many benefits including increased engagement and motivation, improvement in decision making, understanding of responsibility, and preparation for civic participation (9).



One student eloquently illustrated these benefits:

*One of the things I love about HSES is that the teachers in our school actually care tremendously about our voice in our education. Our teachers want to hear our opinions and constantly try to get feedback on how they can better improve and enrich our lives through education. Every class, we are allowed to voice our opinions on what we are learning and we are able to see that feedback applied instantly. Things like this make me feel confident that I have a voice in my education that is listened to. My motivation to learn and my confidence to make changes in education have definitely increased because of this.*

And as another summarized it more simply:

*I feel like I actually have a voice in my education. I feel heard when I'm at HSES. I have choices for my*

*education such as picking classes for the next year. This has an impact on how I feel about my education.*

These feelings were underscored by the principal who reported that giving students more voice has “... paid out in terms of them being more involved in and being more committed to education.... It allows for them to explore through their voice what their interests are and to feel that they have an opportunity to belong somewhere.”

A teacher offered an example of the power of having heightened student voices in the food systems class, saying “The culminating project asks students to identify a community need, and then build a project to address that need. We go about it through a democratic decision making process.” In recent years students have organized community action events addressing issues of food waste and food insecurity, and have managed all aspects of the events from communication to partnership building with community organizations and preparing food to serve. “It’s the most successful that I’ve been in a classroom setting with this experiment of trying to give students as much power as possible,” said the teacher.



## Community partnerships

Ongoing partnerships with community organizations are vital to connecting the curriculum to relevant, real-world issues and opportunities for students to participate and contribute. HSES enjoys a broad and diverse collection of partners including conservation-focused NGOs, arts and cultural institutions, colleges and universities, farms, and social service organizations.

Working with partners takes many forms at HSES. As the school has begun to build and strengthen its farm to school program, a

partnership with a local food justice organization has been particularly successful and enriching for students. According to a teacher working with that partnership, the organization has been “really important in helping us think about the goals that we set for farm to school,” and noted that the food justice work the organization has helped HSES with was “really helping students develop leadership skills, their own voice, and the fire to be politically active and to pursue justice issues in general.”

In one service-learning project, the school partnered with a local soup kitchen where the students



took leadership roles in the entire project, from soliciting food donations from local markets and restaurants, to preparing the food, inviting community members, serving meals, interviewing guests for a podcast about food insecurity, and using project management software to keep track of it all. As the teacher involved with the project described, “To really be a part of that type of professional experience that you would find in a company or in a nonprofit...was very powerful for the kids.”

Truly sustainable partnerships are mutually beneficial, like HSES’ collaboration in curriculum development with a local food and agriculture education organization. The classrooms were used as “incubator spaces” where the lessons would be taught by the HSES teacher or an educator from the partner organization, and then they would reflect on how it went and how it could be improved. In addition the partner provided food for in-class cooking as well as farm field trips and farmer visits to the classroom. As the HSES teacher reported, it was a “remarkable partnership” that “created a lot of opportunities for our students.”

A student described how the connections with these partners impacted them personally:

*I’ve especially been able to benefit greatly from our school’s connection to different farms and environmental organizations. I’ve had the amazing opportunity of speaking to and hearing from many environmentally conscious individuals and their work to make the world a healthier and cleaner place. These experiences have enriched my education by allowing me to build consciousness of my diet and how many of the things I eat contribute to society/are affected by society.*

## **Campus Sustainability Practices and Culture**

Another way in which sustainability is addressed at HSES is in how the school itself operates, both in environment-related management of the physical plant as well as practices that impact social and economic justice. These all have direct and indirect impacts on student learning. Examples of campus practices and culture include composting, food production, and access to academic and economic opportunity, as described below.

## ***Composting***

Campus practices around waste separation have been inconsistent over the years at HSES, but with municipal compost collection available and a push from the Green Team, a student-led club with an environmental focus, composting of food waste has become a regular practice at HSES. Green Team members created videos, organized a competition, and tabled in the cafeteria during the competition to raise awareness about composting as well as the larger impact of food waste on climate. The club's advisor shared this observation, "What

we learned is that we need to go deeper with cultivating student leadership. There was so much intense focus during the period of the competition that we saw a lot of success." In an interview with Green Team members conducted by other students, one participant spoke about their bigger vision:

*Finding ways to help in our communities and building knowledge is something I hope to take away from the Green Team as well as spreading the word to other people about the importance of taking care of not only our environment, but many other social issues.*



## ***Food Production***

HSES offers students numerous ways to engage with food and food production with curricular and club connections to the rooftop garden, chickens, and hydroponics lab. A growing body of research has documented the benefits of bringing hands-on engagement with food systems into the curriculum, including health, academic, positive youth development, and environmental stewardship outcomes (10, 11)

A hydroponics elective offers students an opportunity to go in-depth with the science and practice of indoor food production, with the harvested food being served in the school, sent home with families, and shared with the community. As a means of bringing academic material to life, the course's teacher explained, "Plant biology has never been a super interesting topic for students, but when they actually get involved with growing the plants they get more interested." The teacher further described how hydroponics works well to embody some of the big ideas of education for sustainability: "They get the idea that everything is cycling through the system, the renewability kind of thing. There are a lot of good

concepts there you can teach that they can take to other ideas."

## ***Access to academic and economic opportunity***

While practices such as composting, recycling, and food production directly address the environmental dimension of sustainability, other aspects of school culture address economic and social justice dimensions.

A school administrator described that with respect to EFS, his "work has been more systemic changes." He elaborated:

*For example, we even started asking questions about who we were giving access to these classes, like the media production, the systems in food studies class, the advanced placement environmental science class. When I started, there used to be requirements, like a student had to have a certain score on the Regents Exam in order to get in. And we started asking, 'Why, why do we have these prerequisites?'...We're not really worried about the AP exam scores, we just want to see kids having the experience, because the curriculum is so valuable.*

Access to rigorous curriculum is an important element of preparing students for postsecondary



education and career success (12), and HSES is working to make opportunities to access that rigor available to all students.

The school also has a strong internship program, built around a centralized platform where students can now easily access information that previously was much harder to track down about opportunities available to students in New York City. Partnerships have also been

cultivated with organizations including the Wildlife Conservation Society, the Wild Bird Fund, and the Manhattan Borough President's office to consistently place student interns. The administrator in charge of the program reported, "My passion about the internship work is that it's connected to economic equity because the students need the money, the families need the money."

## Conclusions

The commitment to sustainability at HSES is creating a learning environment where all students have access to a rigorous curriculum that is infused with numerous opportunities to learn about, engage with, and contribute to the community. Teachers are able to follow their passions and bring the academic content to life by connecting it with real-world and relevant local and global issues.

The students and teachers at HSES, collaborating to deeply explore what it means to work towards environmental integrity, social equity, and economic prosperity, are a powerful example of the promise of education for sustainability. To close with the voice of an HSES student:

*When I say HSES is different, it is different in the sense that its core values really guide the activities in the school and even the curriculum. The classes always make you think critically about your place in the*

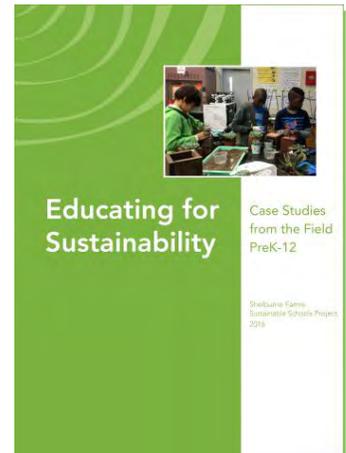
*world and the environment and allow you to make connections with your surroundings in meaningful ways.... I am proud to say that my school doesn't just want us to learn, it wants to shape us and motivate us to have the confidence to use the tools around us to fight for justice and combat global issues no matter the place we step into or the setbacks we might face along the way.*

## How can I learn more?

Read about K-12 EFS case studies from around the country. ▶

Interested in professional development for EFS? [Shelburne Farms offers multiple options.](#)

Want to learn more about HSES? Reach out to HSES teacher [Andrew Margon.](#)



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