

Inspiring Inquiry Through Immersive Experiences in the Amazon Rainforest

By Alex Hill
Staff Writer

Surrounded by lush vegetation, suspended high above the forest floor in a hand-made canopy-walkway during a storm; tasting cacao fresh from a farm; fishing for piranha; and walking through a rainforest at night when every surface contains wonders of nature like frogs, moths, and huge spiders.

So describes a few moments from “Inquiry, Conservation, and Sustainability in the Amazon,” a professional development course for independent school educators. The 11-day course is facilitated by Millbrook School’s Ava Goodale and Asheville School’s own Chair of Mathematics and Instructor of Advanced Placement Environmental Science Mike Hill.

In spring 2018, a group of Asheville School teachers and two students traveled to the heart of the Amazon rainforest in northern Peru to learn about hands-on inquiry for use in classroom teaching.

Their goal was complete immersion in this critical ecosystem.

“Educators need opportunities to participate in inquiry themselves in order to incorporate inquiry methods in their classrooms,” writes Amazon Rainforest Workshops, which hosts the course. “They need to use experience-based techniques in order to guide students in tools and skills of research. They need to experience conservation and sustainable development in order to teach about their importance to global health.”

Educators learn these skills by stepping into the world of the Maijuna, a group of people who are native to the area and work to conserve the precious natural resources



Science instructor Christine Jones helps prepare fish caught in the Sucusari River.

and protect the rainforest from development and resource extraction.

The participants left with a sense of awe and invigoration to share their newfound knowledge.

“The experience cannot be adequately conveyed with pictures or words,” says Asheville School Chair of the Language Department and International Student Advisor Seth Buddy. “The grandiosity and complexity of the ecosystem is humbling, and it naturally invites curiosity and scientific inquiry.”

Each day the group explored a new aspect of the rainforest.

They traveled the Amazon River by boat, discovered the canopy on a suspended walkway, visited farms and learned about the Maijuna’s sustainability and conservation efforts, participated in citizen-

science and mapping exercises that helped catalogue the area’s rich biodiversity, and learned both about sustainable living and how to spark passion for science and hands-on learning.

“Place-based education cannot be matched in terms of the value to the participant,” says Science Department Chair Frank



Chemistry teacher Joe Lambert relaxes in a hammock next to Math Department Chair Mike Hill during their trip to the Amazon.

Kriegler. “I have read about rainforest ecology and indigenous people, but actually having personal experiences in the rainforest and direct interactions with the people is a much more powerful way to learn.”

Science Instructor Laura Lawrence said that this trip strengthened her understanding of the student experience.

“Getting to be a learner again was something I really enjoyed,” she says. “I memorized 107 different birds prior to the trip. It was my first time using Quizlet, a tool my students have used for years now. It was shocking to be reminded how difficult it is to master material. I also did quite a bit of reading before our trip, and it was nice to be reminded how challenging it is to store information in my brain without a kinesthetic experience to link it to.”

Lawrence says her experiences on the trip have changed her worldview: “I am seeing my own forest differently by paying attention to the birds, trees, and other wildlife in ways that I hadn’t done so before,” she says.

The Asheville School teachers have discussed ways of incorporating their experiences into the science curriculum. “I am really excited about making comparisons across ecosystems in my AP Environmental Science and Biology classes,” says Science Instructor Christine Jones. “I also plan to set up camera traps to inventory the wildlife we have on campus. I would love to contribute to North Carolina’s wildlife management database and expose our students to the range of wildlife species that call our campus home.”

Each participant said that they will carry their experiences from the Amazon for a lifetime and hope to reach out to students to encourage them to become global citizens.



Students help set “camera traps” — video cameras that help catalogue local fauna.

Laura Lawrence Describes Her Experiences in the Amazon

Laura Lawrence, who teaches biology and physics at Asheville School, wrote the following description of travels to the Amazon Rainforest for the independent school educators’ course: Inquiry, Conservation, and Sustainability in the Amazon.



I will always remember the 10 days I spent in Peru. I am so grateful to Mike Hill for organizing this trip and for Asheville School’s support of this incredible opportunity for six faculty members and two students to travel to the Amazon rainforest over spring break.

For the first few days, I couldn’t believe I was actually waking up in the rainforest. We stayed at the Explornapo Lodge located on the Sucusari River, which is just off the

Napo River, which feeds into the Amazon River. It is hard to imagine just how big the Amazon River is. At some points I saw it get over five miles wide. No matter where you are in the forest, you are surrounded by sounds. The cicadas, birds, and amphibians made the music for our trip. There are no roads, so we took boats everywhere we couldn’t hike.

One of my favorite experiences was the daily 6 a.m. birding boat rides, and one morning alone before 7:30 a.m., we had seen 45 different birds, a sloth, and a family of monkeys!! Listening to my friends (both new and old) try to describe the exact location of a beautiful bird in a tree always made me smile. The colors of the silver-beaked tanager, paradise tanager, white-winged swallow, and the spangled cotinga are stunning.



Faculty members and students work together in the Amazon Rainforest. The guides who joined them helped to keep them safe.

We spent three days learning with the Maijuna, an indigenous tribe who is saving a million acres of rainforest and being innovative in generating income by growing chocolate and keeping stingless bee hives. The local people are so resourceful, and they use the forest for everything from making their dugout canoes which they use for fishing and travel, to harvesting palms to make roofs that last five years. We got to experience the Maijuna banana, yuca, and cacao farms, and even got to taste the fresh cacao fruit. We also got to taste honey made by stingless bees in a Maijuna house.

We spent several lovely mornings and afternoons in the 14-tower canopy walkway. It was unbelievable to be up on top of the forest watching the sunrise, listening to the screaming piha, and feeling the breeze and warmth from the sunlight.

Our guides worked hard to share their forest with us and keep us safe. While we were covered from head to toe in protective clothing and bug spray, we followed a guide who was walking barefoot with a

machete through the forest to clear a safe path for us. This person was one of the five individuals who built the canopy walkway by hand and inspects it daily. The team took two years to build the structure and did so without drilling holes in the trees.

We participated in scientific research by setting camera traps and inventoried the trees in a transect of the forest. We found over 100 different species in just .03 of a hectare, and that doesn't include the small or large trees, palms, or ferns!

We fished in the river, cleaned the fish in a local house, and ate the fish for dinner that night.

We visited a medical clinic that is taking care of people for miles up and down the Amazon.

Giant bugs, a bioluminescence tree, unbelievably amazing food, big spiders, huge trees, a red-tailed boa constrictor and a fer-de-lance, a sloth, monkeys, leaf-cutter ants, black-mantled tamarins, dolphins and so much more made this trip memorable. Watching the blue morpho butterfly flutter around is a magical experience. By the end of the trip, I could recognize the ringed kingfishers as easily as I can identify a cardinal here in WNC, and I could distinguish the yellow-headed caracara call from that of the russet-backed oropendulum. What originally was a sea of green had become familiar plants. My colleagues and I brainstormed over fifteen

ideas from our experience that we plan to use in our roles as teachers, hall parents, and coaches, including some interdisciplinary work among our math, chemistry, and environmental science courses. We plan to have our biology students engage in parallel research projects in the 300 acres on our campus. I have already seen our AP Biology students with binoculars identifying the birds on campus, and we are even planning a mapping exercise with the faculty during an upcoming service day.

Mike Hill is collaborating with the Amazon Workshops organization to organize an annual course for teachers and students from independent schools, and I look forward to seeing how this program unfolds and creates global connections as well as strengthens local ones within schools. The time spent and experience with my colleagues was invaluable.

I left the Amazon with a deep sense of being a global citizen and am grateful for the reminder of the similarities we share with humans around the globe. I feel challenged to make conscious choices that preserve our earth and fellow humans. I have been inspired to help my students experience a sense of place in our home.

At the most basic level, I was reminded how powerful an experience can be, and this has rejuvenated my passion for facilitating experiences for our students.

