

"The mind is not a vessel to be filled, but a fire to be kindled." – Plutarch

PROMOTING PASSION FOR LIFE-LONG LEARNING THROUGH ENVIRONMENTAL EDUCATION:
A STATEMENT OF TEACHING PHILOSOPHY BY NICOLETTE L. CAGLE

Teaching Philosophy

Seeing that spark in a student's eye as they begin to understand a new concept or watching a student become invested in what they are learning – these moments are what I live for, these moments tell me that I have succeeded, that my teaching really makes a difference.

Environmental education can ignite a flame of passion for knowledge and create more motivated students (AIR, 2005). Intrinsically motivated students actively engage in learning as a result of curiosity, enjoyment, and a desire to fulfill personal goals (Brewster and Fager, 2000). These students are also more likely to be lifelong learners (Kohn, 1993) and lifelong learners take a more active part in the civic community, lead a more sustainable lifestyle, and have improved health (LLS, 2003).

I want to inspire this intrinsic motivation and watch my students achieve a higher quality of life by exploring the mysteries of the natural world together.

My Teaching Philosophy in Action

After graduating with a bachelor's degree in environmental science from the University of Illinois, I moved to Knoxville, Tennessee to begin a one-year term as an AmeriCorps volunteer. In Knoxville, I began to visit Mrs. Williams' classroom at South Doyle High School twice a week. I devoted one of the weekly sessions to the science behind the environment, and the other to monitoring the water quality of nearby Stock Creek.

During one of the first sessions, we explored the fascinating world of macroinvertebrates. I told the students about the time I spent in the lab sorting and identifying caddisflies and stoneflies preserved in clear formaldehyde during an undergraduate research project. Next, I used colorful slides and pictures to explore the anatomy and identifying characteristics of each of the macroinvertebrate orders. And then I pulled out dozens of vials with preserved stream critters. The students formed small groups and began to identify the larvae. At first the students seemed generally disgusted, but as I moved from table to table, showing them the stony cases of caddisflies or the enormous mandibles of larval dragonflies, I saw the students' faces light up. They began to sort and identify these stream invertebrates with gusto, and used them to calculate water quality indices for their mock streams.

As the session was wrapping up, one of the students came up to me and told me how excited she was about going down to Stock Creek in a couple days to look for "real" macroinvertebrates. Another student, before walking out of class, said – "You really love those bugs, don't you?" I replied, "I really do," with a big grin on my face. The student laughed and said, "I'm glad Ms. Cagle." He was one of my most enthusiastic macroinvertebrate collectors the next day when we went down to the creek. In fact, this class became so invested in our macroinvertebrate study that five students got together to develop a twenty minute PowerPoint presentation on Stock Creek's stream fauna and water quality, and proceeded to present it to the Stock Creek Watershed Association one week later.

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Teaching Methods

I use a number of techniques to engage students and encourage self-motivated learning. I concentrate my efforts on two areas of teaching: being an inspiring role model and focusing attention on student needs.

Being a Role Model. - I think students need to know that their teacher is knowledgeable, credible, and sincere. To secure the confidence of my students, I have always held myself to rigorous academic standards. This is easily demonstrable to students when I expound upon personal experiences relevant to the day's topic. For example, if we are discussing the intricacies of thermoregulation, I might tell a story about the dozens of queen snakes I saw sunning on logs lodged in the muddy banks while hiking along the Eno River in North Carolina or go into detail about the two summers I spent traipsing through midwestern prairie, capturing snakes under tin and coverboards, during my dissertation research.

I also believe that students will not be motivated to learn, if their teacher does not show enthusiasm about the subject matter. I love natural history and ecology, and the students can sense this. I make sure that my speech is inflected and my movements are animated. I simply can not hide my natural interest and passion from my students when we come across some sort of interesting natural history phenomenon, like the delicately weaved, pendulous nest of an oriole or a leaf perfectly outlined by crystallized frost. Moreover, these small phenomena make incredible, spontaneous learning opportunities.

Focusing on Student Needs. - The first key to being a student-focused teacher is recognizing that your students are all different. They have different strengths and weakness, different learning styles, different cultural and economic backgrounds, and have had different experiences. I've worked with students of all sorts – gifted students at the North Carolina School of Math and Science, academically challenged students, students from rural Tennessee and inner-city Chicago. I've even had the opportunity to work with students half a world away in Tanzania. These experiences have taught me that incredible teaching, and learning, can occur when you really understand your students.

In informal environmental education, I try to learn about students by asking about their prior knowledge of and experiences with the day's topic. In formal or long-term teaching, I ask the students to write what they hope to learn from the class. The answers to these questions help me gauge what a student knows and where I might need to fill in gaps before moving on to more advanced topics.

Students also need feedback to encourage their learning. To do this, I actively encourage their questions. I am attentive while they explain a concern or ask their question, and I also carefully answer their questions, making sure to double check that my answer addressed their needs by asking "Does that answer your question?" or "Does that make sense?"

Finally, to engage students, and to meet the needs of students with different learning styles, I try to use a variety of teaching techniques. I use class discussions and lecture to engage aural learners. I make sure to include pictures and videos of natural phenomena to facilitate visual learning. I use the writings of environmental authors (e.g., Aldo Leopold, E. O. Wilson), research articles, and journaling to captivate those students with strengths and interests in read/write learning. Finally, I use demonstrations, field

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tours, and in-class exercises to involve kinesthetic learners. My teaching style is adaptive and student driven.

References

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