

Bowdoin College application supplemental essay  
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***REQUIRED SUPPLEMENTAL ESSAY FOR FIRST-YEAR APPLICANTS:***

*The Bowdoin College Admissions Committee requires that all applicants submit a supplemental essay so that we may become more familiar with your writing and learn more about your secondary school experience. Please reply to the following question with a one- or two-page essay.*

***Who is the secondary school teacher who has had the greatest positive impact on your development? Please describe the ways in which this teacher has influenced you.***

[Note: I've replaced my teacher's name with "X" in this piece for anonymity.]

It was not until I was in tenth grade that I began to fully understand the meaning of the word "science." Of course, I had known for a long time that science was a systematic method of learning about the world around us. Starting in elementary school and continuing into high school, I had been given science lessons that made use of simple demonstrations to emphasize particular concepts. But not until I took Dr. X's tenth-grade Honors Chemistry course was I fully exposed to the way that science is really done.

In the very first week of school, Dr. X assigned a yearlong independent research project on one of a number of possible topics. These were not simple, didactically contrived experiments but, rather, meaningful investigations into real-life problems. For example, my project—measuring concentrations of phosphorus in the water and sediment of the local reservoir—was meant to provide useful data on one of the primary causes of drinking-water degradation.

I began the project by reading published studies on my topic, in order to gain a better sense of phosphorus in general and my experimental approach in particular. I then developed my own hypotheses and designed my own procedure. I learned how to use controls to ensure the quality of my lab work and how to apply statistical analysis so that conclusions neither stretched nor ignored what my data revealed. Throughout the entire process, Dr. X drew on his decades of experience to direct, assist, and encourage my work. In this way, Dr. X helped me to discover how much knowledge, ingenuity, and meticulousness real science requires.

However, the assignment did not just teach me about science; it also gave me experience with the process of carrying out any kind of independent project. I called and emailed a number of scientists with questions about my hypotheses, experimental design, and testing procedures. Before sampling, I had to get permission to use the rowboat of a resident with access to the reservoir. I also contacted the director of a water-research laboratory at Rensselaer Polytechnic Institute to make arrangements for coming to use his equipment. When my research was finished, I presented it first to my classmates and then to a small group of community members interested in water quality. Thus, the project gave me skills and experience in communication and coordination as well as in scientific investigation.

When I expressed a desire to continue my research over the summer, Dr. X was ready and willing to provide assistance. He helped me to design a new approach to my experiment that involved testing phosphorus concentrations throughout the water column instead of just at the surface. And when I noticed an unusual pattern in my data, he offered insight into what might have interfered with the results. Before I performed the new experiment again over the next summer, Dr. X and I spent a few hours discussing ways to avoid that problem and to improve the overall conclusiveness of my results by measuring dissolved oxygen and water temperature as well as phosphorus. And when I decided to enter that most recent project into the Intel Science Talent Search, my former chemistry teacher once again provided encouragement and advice.

Dr. X's research project did not just make me a better scientist; it also made me a better planner, a better organizer, a better communicator, and a better analyzer. Moreover, it sparked an interest in water quality, chemistry, and independent research that I have continued to pursue. A great educator is not only one who teaches students but also one who provides the guidance and encouragement necessary for students to teach themselves.