The Storytelling Scientist

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I hereby affirm that this is an original essay and my own work.
Dear Editor,

There is currently a debate in the halls of higher education about the true value of a liberal arts education. Some argue that instead of reading classics, classes should prepare students for careers currently in demand. When I began my collegiate career, I knew my focus would be scientific and wondered why I had to take breadth of Exploration in Liberal Arts requirements to graduate from the College of Letters and Science. However, as I now near gradation, I truly appreciate the value of my liberal arts education.

When debating the value of a liberal arts education, one of the hardest parts is defining what exactly comprises a liberal arts education. A technical education provides training for a specific skillset or job, but a liberal arts education is not so easy to pin down. In his essay on “The Goals of a Liberal Education”, William Cronon lists ten characteristics a liberally educated person displays. While they each have their own merit, I believe the last one, Only Connect, ties all the rest together. A liberal arts education provides the tools to connect with the people and places around us to be more fully integrated and aware of our world.

Humans are social beings and our ability to relate to and connect with one another is our most valuable skill. Drawing upon past interactions and experiences, we can make sense of the world and find creative ways to act within it. The strength of a liberal arts education is not that it is training for the jobs currently in demand today, but instead teaches students to interact with and continually learn from the people and world surrounding us, preparing us to tackle jobs today, tomorrow, and for the rest of our careers.

Beginning college, I knew where I could apply my calculus and biology classes as a scientist, but wondered what the application of my Scandinavian Tales and Ballads course would be. On the first day of class, we went around the room and stated our majors. Afterwards, our professor said how excited he was to have such a variety of majors in the class because each background would bring a different and unique perspective to the table. As the extension of that, he said his goal for the class was not to make everyone a Scandinavian Studies PhD, as that
would flood the academic market. Instead studying these tales and ballads would help us become better computer scientists, marketers, or whatever passion we were pursuing. Instead of seeing a diversity of backgrounds as a hindrance, he saw it as an advantage because each class member could contribute a separate source of value to the whole.

Last spring, I wanted to participate in campus business competitions, but without a well formed idea of my own, I joined a team. Our members came from around the world and majored in marketing, biochemistry, nuclear engineering, electrical engineering, and accounting. Each person was able to contribute different skills that ultimately lead to second prize at the Wisconsin Energy and Sustainability Competition and Best Business Plan in the Qualcomm Competition. In his book, *The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*, Walter Isaacson cites Bell Laboratories and the advent of the internet as examples of this strategy of divergent collaboration in action. He argues that the most innovative and productive teams are made up of people from a variety of backgrounds because they each have a different way of solving problems and together they can come up with an optimal solution. A liberal arts education provides an individual with broad backgrounds to make connections within their own work and with those with whom they work.

Later in Scandinavian Tales and Ballads, the professor wrote "truth" and "fact" on the board. At first, I was confused why such similar words were written as if they were two wholly distinct and separate categories. However, by the end of the class, I learned that these words instead are very distinct and separate ideas. Everyone learns facts which they interpret to build their own truths about the world. Conducting primary research, I originally believed I was uncovering true facts about how the human body works. I now understand that only my figures and data are facts. The difficult part is understanding how other scientists will interpret these facts. Different scientist have different truths that they want to promote even when looking at the same facts. I am currently writing a paper on the role of hormones in the regulation of the cyclin D1 protein in the prostate. After taking this class, I now focus as much on the narrative arc
and possible interpretations on my data as much as I focus on the data itself. My liberal arts education taught me to connect the story of my research to other scientists and their studies.

Scientific research and the world as a whole has now entered the age of “Big Data” where we are constantly flooded with information and options. My research experience has transformed from counting cells by hand to dealing with computer files gigabytes in size. I can quote the statistical significance of my data to three figures, but this means nothing to other scientists without context. True value lies in the ability to sift and winnow all these inputs to synthesize a clear, compelling story that connects all the dots for the audience. The impact of my research is not only about which hormones affect the expression of a gene, but also about being able to add the context I learned in my courses on population dynamics and gender and women’s studies to show how my research will improve human health. My liberal arts education connects my research from proteins to people. I now appreciate that science and the humanities are not competing fields. They are synergistic to each other and have the greatest impact in concert.

Most importantly, my liberal arts education gave me a diversity of experiences, allowing me to connect and interact with a broad variety of people, an essential skill in our rapidly globalizing world. If each field of knowledge is a different language, a liberal arts education is a Rosetta Stone to every tongue. As a newborn reaches for their mother and on deaths door we ask to be surrounded by family, our most basic human instinct is to connect to one another. That is the invaluable skill a liberal arts education provides.

Thank you,

Bill Mulligan