



Dr. Jacquelyn Bolman – Environmental Scientist

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According to Lakota belief, the start of each person's existence begins among the millions of stars that stretch across the night sky to form the Milky Way. We journey through this trail of stars until we reach the southern end, where we are asked by Maya Owichapaha, the grandmother, to select our life story. We choose our story knowing there will be good times full of joy and love, and hard times when we will experience pain and loss. But it will all cumulate to create purpose in our lives. Birth marks the moment each one of us starts the process of learning why we are here.

I am here as both a Native and an environmental scientist. As a Native scientist, I use more than a millennia of environmental observations by my people to understand how the four elements—earth, air, fire, and water—interact so that I can bring harmony to the environment. As an environmental scientist, I draw on a wide range of scientific disciplines to understand the environment and the many interactions that take place on a physical, chemical, and biological level.

I'm also a mentor who helps young people develop a connection between their culture and traditional science. I believe this connection is key for allowing young people to draw on a variety of different perspectives in order to create a sustainable world for all living things.

As a child, I never thought I would become a scientist or mentor. In fact, I never envisioned a life for myself outside that of my family's ranch and farm in rural South Dakota. But staying at home was not to be part of my life story.

I'm Lakota and Euro-American. At an early age, I was adopted into a loving family that grew to consist of my mother, father, brother, sister, and me. While growing up, home was the sweetest place on earth. I adored all that I considered home--my family, the big open grassy spaces, and the vast sky high above.

It was outside of my rural life where I struggled, especially when I started attending a high school 25 miles from my home in a town called Chamberlain. I felt like everything about me was different from my peers—the way I wore my clothes and styled my hair, even the way I spoke. I didn't have the social skills to cope and, as a result, became painfully shy.

I remember being stricken with panic the day my father asked me to pick up a college application from my guidance counselor. I didn't understand why I needed one because my parents didn't go to college, and I assumed I wouldn't either. But I respected my father and did what I was told.

My body was tight with anxiety when I walked into the counselor's office and asked for an application. Although I don't remember the counselor's name, I do remember what he told me: "Jacquelyn, you're not college material." I walked out empty-handed.

When I told my father what happened, he said, "You return to the counselor's office and ask again for a college application." The next day I got that application, but I wasn't convinced that I was going to college. I was working in the field with my father when I asked him why I should go.

"Jacquelyn, you must get an education," he said. "Not because it makes you smarter or better than anyone else. Nothing could be farther from the truth. But it will give you credibility in a world different from this one. And then you can give back."

With my father's words in mind, I went to the University of South Dakota in Vermillion. However, I didn't know how I was going to give back until I started studying the growing rates of alcoholism affecting communities close to where I grew up. This concern guided much of my early academic and professional career as I sought to understand addiction from a psychological and physiological perspective.

I received an undergraduate degree in psychology and one in allied health science, and then a master's degree in educational psychology and counseling. I was denied acceptance to the university's doctoral program because of a lack of "real world" work experience. To get that experience, I took a job as a curriculum development and training specialist with the Aberdeen Area Tribal Chairmen's Health Board, which works to improve health services for Indian people living in South Dakota, North Dakota, Iowa, and Nebraska.

In this position, I contributed to research that examined the prevalence rate of children born with alcohol-related developmental disabilities. Even though I was working with issues of alcoholism, I noticed that the healthier the environment, the healthier the people who were living in it.

The knowledge of balancing the needs of people with the needs of our natural environments is paramount in Tribal societies. I realized that for our Indian children to be happy and healthy, their education must be grounded in this knowledge. Their education must connect back to their environment and culture. We can't expect our children to be stewards of the land and each other without an education that includes learning outside on the land that they will care for, alongside their community.

After working for a year and a half, I returned to the University of South Dakota to pursue a PhD in education and psychology. I was close to completion when I realized the program wasn't for me. I really wanted to manifest my realization that science education must connect the environment and culture, so I went back to the University of South Dakota, where I earned a doctoral degree in environmental science and educational administration.

Today, I work as the director of the Indian Natural Resource Science and Engineering Program (INRSEP) at Humboldt State University in California. The program supports North American indigenous students pursuing higher education degrees in the sciences, technology, engineering, and mathematics (STEM). My role includes academic and cultural counseling and mentoring INRSEP students as they integrate the working knowledge of Indian communities with Western science. Our purpose is to ensure a culturally strong Native scientific workforce to meet the challenges and opportunities of our nation's future.

Every day, I help my students make connections between their cultural understanding of the environment and what they are learning in traditional science classes. I do this by sharing openly everything that I have learned about science and life. I want my students to dream big and succeed. I want them to become leaders so that all of humanity can benefit from their ability to draw upon the power of culture and science to understand our environment and keep it healthy. Through my students, I have found a way to give back, and I have found my life's story.