

Research can be loosely defined as the systematic investigation into a field of study that tries to establish facts in order to reach new conclusions. With regards to my senior thesis, *The Effects of Hyperhomocysteinemia on Vascular Disease*, the investigation proved to be difficult both on the technical and textual front, but unexpectedly rewarding on the cultural front. Overall my thesis is composed of two parts: research in lab and the literature and writing portion.

My research project began upon acceptance into a summer research fellowship at the University of Louisville. At first I was nervous because I knew it would expose me to a multitude of new scientific instruments and ideas, pushing me to my level of competency. On the first day, this feeling was reiterated by the fact that everyone in the lab was born in India. I now had to grow accustomed to a different culture on top of everything else! To my surprise I quickly bonded with my lab mates, Drs. Kalani and Kamat, over our common curiosity into research. We shared in the frustration of experiments going awry and the arduous process of troubleshooting, as well as overcoming a language barrier that provided comic relief at times.

Out of this friendship I was able to learn and appreciate a different culture which was totally unexpected at the beginning of my thesis. I also became confident and proficient with a variety of scientific research techniques. As our project started to become more complex I started to realize that research cannot be a solitary act, but it involves the cooperation and teamwork of multiple people and sources, each having unique backgrounds and uses. This lesson was to become invaluable during the writing phase when encountering difficult material.

The first week back at Eastern I arranged a meeting with my mentor, Dr. Brock, and showed him my poster and results. Initially, I wanted to include all the aspects of my project but after our discussions I realized I needed to narrow the scope in order to produce an effective research article. After utilizing Eastern's academic search premier and U of L's medical library catalogs, I had a

rough idea of where I wanted my topic to focus. I often consulted major journals, such as *Nature*, through Eastern's interlibrary loan to see the clearer picture of homocysteine's mechanism. After several weeks of research I stumbled upon two books that were essential in developing my thesis outline: the first was *Homocysteine in Health and Disease* edited by Ralph Carmel, MD and the second, *The Homocysteine Revolution* by Kilmer McCully, MD. Both of these books were unavailable at Eastern's library, but after consulting with the librarians, they helped me acquire them from UK's medical library.

After producing a rough outline and singling out a specific topic I started to draft my thesis. The initial writing was effortless because I was well versed in the basic information concerning homocysteine from articles provided by Eastern's library; but as the project developed, the information needed to fulfill the outline was becoming more specialized and difficult to follow. To solve this problem I utilized the lesson of teamwork, acquired from my time at U of L, and reached out to my coworkers and even contacted a leading authority, Donald Jacobsen PhD, who runs the Cleveland Clinic on Homocysteine Research. Their insights helped me understand several complex biochemical pathways and were vital in overcoming rough patches during writing.

In the end, completing my honor's thesis was extremely rewarding. I was able to experience a new culture, befriend several PhDs, and expand my research prowess. The multiple resources provided by Eastern's library were essential in finding my ninety-four sources. They delivered articles and books with the interlibrary loan program, looked over abstracts and presentations at the Noel Studio, taught me how to effectively use google scholar and academic search premier, provided encouragement, as well as served as format experts to help polish the final product. I will continue to use the techniques fostered at Eastern in research endeavors and hope to implement them in the following year at medical school and in later years, in improving patient wellness.