The paper I wrote was for my graduate class, Advanced Measurement in Health Care. Our task was to write a paper on a variable or a concept, pertinent to our research area, that could be measured with a self-reported measure and compare its accuracy/validity and precision/reliability to an objective physiological measure. As my specific area of research is related to ‘pain,’ the first challenge was finding a physiological instrument that could measure pain. After all, pain is a subjective experience and self-report is considered the gold standard for quantifying pain. However, I was fortunate to consult my mentor, Dr. Marie Hoeger-Bement who directed me to some methods that could potentially capture pain objectively.

After identifying a potential objective measure, which is the use of functional connectivity of magnetic resonance imaging (fcMRI) of the brain, I started searching databases such as Pubmed, Medline and Web of Science, to identify key studies that used this method to quantify pain. Searching these online databases could be overwhelming, time-consuming, and at times confusing as there are different strategies to search from one database to another. Luckily, I attended a lecture in the library that was through another a course I was taking in the same semester, where a librarian took us through different databases and showed us the different searching strategies for each database. In addition, I learned that I could schedule a one-on-one appointment with a librarian for an in-depth help on a specific topic. So taking advantage of this wonderful resource was of huge benefit, where librarian Martha Jerme provided me with valuable information on how to use those specific databases and provided me with additional databases that were helpful in my research process.

As soon as I pulled together all the key articles that are relevant to my research topic, and by reading the abstract I started choosing the articles that I will be using in my paper. At this stage of the process, one difficulty I faced was that the method of fcMRI in quantifying pain is new and I identified only a few articles that looked at this technique. On the other hand, studies that used self-report were abundant and choosing the appropriate subjective measure that would complement the objective measure was challenging. Nevertheless, going back to my professor, Dr. Alexander Ng, and my mentor had helped me through this process in guiding me to the right path. There were two lessons I learned from this stage of the research process: 1) always begin early and have an organizing technique to manage the resources relevant to your research topic, 2)
when in doubt consult the professor/mentor of the project. These two ways will save time and reduce any distress one may encounter during this process.

Once the articles for both the subjective and objective measures were chosen, I started reading the articles thoroughly and analyze the information critically. Taking notes and writing some thoughts randomly on the side helped with forming the outline of the paper. In addition, using Refworks, a web-based bibliography manager, had helped with formatting the references to an APA format, as this was requested style by Dr. Ng. Also, Dr. Stacy Stolzman, a former student in our lab and a past winner of the Maria Dittman Research award, had provided me with valuable information on how to use the write-n-cite feature in Refworks as well as how to attach articles to the personal bibliography that was created. This aids in the organizing process and keeps track of the progress of your paper.

By the time I began writing my paper, additional studies were identified through the bibliographies of the studies I used in my paper. The Raynor Library periodicals and the interlibrary loan service were extremely helpful with obtaining the full-text of those articles. An important lesson I learned is that the stages of the research process will likely overlap; meaning that once I have put together the resources that I will use in my research paper and began writing, I realized that I needed to go back and find additional articles and resources for my paper. The writing process requires the intellectual effort of: 1) analyzing the quality of information, 2) integrating the different pieces of information from the different resources, and 3) communicating your thoughts to the reader in an organized and articulated manner. The Ott Memorial Writing Center, another service by the Library, does help a lot through this process in which multiple writing tutors are dedicated to support writers and help with their writing process. Writing may seem sometimes clear to me but when I present it to someone else they give useful feedback on some sentences that I initially thought were clear. Therefore, it is useful to consult the writing center about your paper to make sure that the overall paper is coherent and the flow of your ideas are present and clear.

In the end, with all the frustrations and struggle, I enjoyed writing my paper and learning about a potential objective instrument that could be used to capture pain. It is doubtless that the research process can be challenging, and can take time but the rewarding benefit outweighs the struggle. Especially, when you go back to your lab and become the “expert” on that topic. I was excited to teach my lab mates about a new technique that would potentially quantify pain objectively. The resources were very helpful throughout the process, whether it was my meeting with Ms. Jerme, requesting an article through interlibrary loan, or making an appointment with a tutor in the writing center to revise my writing. I learned that practicing within the different stages of the research process only makes you better and improves upon your skills.