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Tap With Me- Reflective Essay

For this project, Tap With Me: Interpersonal Motor Coordination and Sequence Learning, I completed a self-designed research project that I worked on all the way from the initial background research, to running participants in the lab, all the way to creating my own research poster. I started out by doing background research on motor coordination and sequence learning to figure out what gaps there were in the previous research. I studied different theories about these topics in order to come up with my own hypothesis. Next, I worked with my mentor to gain the tools and technology I needed to test my hypothesis, and I worked on coming up with a protocol. Finally, I was able to run participants and collect data from them, and then analyze that data to come up with conclusions about the experiment. What I learned from this is that we as humans work differently when alone than we do with others, which can teach us a significant amount about the ways that we interact with each other on a daily basis.

The study I worked on investigated the effects of interpersonal movement coordination on implicit motor learning and social connectedness. The project involved using several pieces of technology used to measure sequence learning, such as a touch screen table. Using this touch-screen table- top display, participants were asked to tap small blue targets in a specified sequence together with another co-participant. The tapping sequence was specified to one of the two participants by indicator lights situated above one of the participant’s targets. We were attempting to study whether participants implicitly learned the imbedded motor sequences and whether this learning occurred for the follower via interpersonal coordination. Basically, we recorded participants tapping movements on the virtual table to measure how their movement changed when working with another person versus tapping on their own.

To my surprise, I ended up learning just as much about the research process as I did about the topic I was studying. This is something that not only met my expectations as I was writing my proposal, but it also took me aback a bit. I knew I would learn about sequence learning, and I knew I would learn about how to carry out research in a lab, but I had no idea that I would learn just as much about one as I learned about the other. I was continuously fascinated by the articles and theories I read about social coordination, and I cannot believe how much the way we coordinate with each other potentially affects our communication. Not only that, but I cannot believe that I was able to carry out a research project on my own and have as much responsibility as I did for just an undergraduate research assistant. I learned an immense amount about the research process, such as how to collect and analyze data, and this is experience I would never have had if I did not design the project on my own.

Also to my surprise, I was able to go above and beyond my proposal and I ended up making progress towards almost every single learning outcome listed, which I was certainly not expecting to any extent. The first step I took was identifying a research question—after reading previous research, I decided to try to fill in some gaps I read about to really answer the question of whether or not we behave differently when working on a task alone versus with others. I was able to possess a well-developed awareness of literature in the field through this, because I read several articles on past theories in order to develop my hypothesis. Through the research, I discovered a problem in how we connect the way we complete tasks, and I hypothesized that we will work on a task quicker when working with others rather than alone. Next, I identified an appropriate methodology to test this through my readings on virtual tables and how they can measure motor coordination. Finally, I disseminated my research through a poster as well as two separate powerpoint presentations that differed as a result of change in audience.

The most important theory that I studied and took to heart is a theory that can be applied in every day life. This is the theory that we interact with people through more than just our verbal speech—every single day we use hand motions, eye movements, and facial expressions to coordinate socially with those we see every single day. When we walk alone, we have nothing to base our movements upon; when we are with someone else, we tend to walk in stride with them as a result of motor learning in a socially centered environment.

In a nutshell, we as humans are social people, so the basis of our interactions with others involves almost mimicking the way others interact with us. If I smile at someone, they smile back; if I walk with someone, they walk in pace with me. All of this has a deep connection to our innate motor abilities. Something as simple as tapping our finger on a screen, which is what I measured in this experiment, teaches us a lot about the way we act around other people.

The most enjoyable part of completing this project was that I was given the opportunity to present my work in several different ways, to a wide variety of audiences, in some very unique settings. I was thankful for the opportunities I was given to present my work not only because I wanted to gain presentation skills, but also because it was exciting to be able to show others the significance about the work I was doing and will continue to do. While it seems as if “social coordination” seems pretty lackluster, it really can open out eyes to how humans interact with each other on multiple levels, which was what I wanted to relay when I was presenting the material. I disseminated the material to the student body during the Undergraduate Research Conference, to other professionals on the topic in the final lab meeting of the year, as well as to a group of high school students.

 The most nerve wrecking of my three disseminations was during lab meeting, because I had to present my research to not only the entire lab and my mentor, but another visiting professional in the field. While this was the scariest part of disseminating my project, it also was the one that showed me that I truly understand the material and the concept of motor coordination and sequence learning, because I was able to explain it to professionals. The Undergraduate Research Conference was also exciting, because it was a huge event, so I was able to share what I worked on to a wide audience and people from various backgrounds. However, my favorite part about disseminating was being able to talk to high school students. I was not only able to share my research with them, but I actually was able to discuss with them their thoughts on the field of psychology and I was able to dispel some myths about the work people do in psychology. It was great being able to talk to excited minds and getting to teach them about not only my lab, but about college research in general.

 It was great experience being able to share my research with a wide variety of audiences, because this taught me how to present the same research in a different way to different people, depending on their level of knowledge on the topic and their interests. For example, when I spoke to professionals in the field, I was able to use specific terms that they understood because they are experts. However, when I presented to those who knew nothing about the topic of my research, I had to learn how to explain things without using confusing lingo so I could relate my research to everyone at every level of knowledge and interest.

Ultimately, my experience working at the Perceptual Motor Dynamic laboratory and following through with a self-designed project taught me just as much about the research process as it did about the subject matter itself. While I learned a lot about social coordination and how important it is in human interactions, the most valuable experience I gained was learning how to come up with a laboratory procedure and carrying through with it until the end. I was able to gain several perspectives about how to write up a project from various researchers in my lab, including my mentor, which is invaluable experience I will be able to carry with me through graduate school when I will surely be working on more self-designed experiences. That way, I will be able to run my own laboratory someday as a professional. Through this research I learned that I definitely want to continue doing research in graduate school as well as in a career, and this project provided me with an excellent starting point to do so.