

Injury Rehabilitation

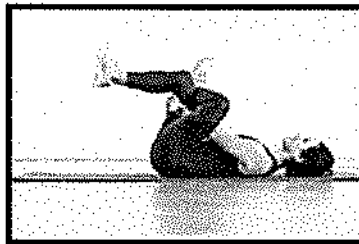
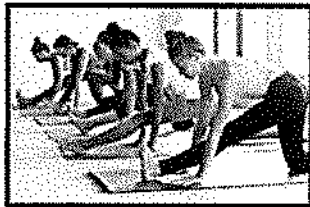
MYP Personal Project 2019-2020

Global Context: Scientific and Technological Innovations



Name: Christina Sofikitis

School: Hugh Boyd Secondary



Word count: 3342

Supervisor: Mr. Taylor

Mentors: Physiotherapists Linda Maedel and Craig Pangindian

Table of contents

Body:

- Criterion A (investigating) 3-4
- Criterion B (planning) 5-6
- Criterion C (taking action) 6-7
- Criterion D (reflection) 8-12

Appendices:

- Appendix A: Process journal excerpts 13-22
- Appendix B: Bibliography (with 5 annotated sources) 23-27
- Appendix C: Photos 28

Criterion A: Investigating

For my personal project, I decided I would research and produce a booklet, as well as a power point, to display my work regarding physiotherapy. Physiotherapy is a broad word that does not directly explain what I'm focusing on. The idea to focus my personal project on physiotherapy came from our grade 9 independent studies project. As only a grade 10 student at Hugh Boyd Secondary, I have to say that I don't have my whole life planned out, but doing this project has helped me discover whether or not physiotherapy is something for me. My idea for my topic blossomed in the summer, and from there I narrowed my main focus down. I decided I would look at the rehabilitation processes and exercises for specific injuries. I have some prior knowledge on this topic as well, acting as a base for my research. My prior knowledge consisted of knowing some rehabilitation processes for a couple injuries I or other people I know have experienced.

This topic interests me because this relates to what I might want to pursue in post secondary, and how this will teach me how to deal with my own injuries. Being a multi-sport athlete, there is always some sort of injury I am battling. Whether it's a concussion, or a broken bone, I'm known as an injury magnet. It is helpful to know different rehabilitation exercises and specific healing information about each injury, making the recovery process faster and healthier. Also, I have thought about pursuing kinesiology in post secondary, so doing this project will help me decide whether that is the correct path for me. In regards to my global context, I chose scientific and technological innovation. This is because I enjoy researching information along the science path, and I hope to focus on sciences in the future. It also fits the purpose of my project because it is developing new research on rehabilitation processes and exercises to

better my knowledge, and possibly society's knowledge, on healing correctly from many different injuries.

The overall goal for my project was to formulate a book displaying my knowledge on rehabilitation processes and a variety of pictures. Since my product is now completed, I now know I have exceeded my own expectations as I also created an online powerpoint. To continue, prior to this project I had little knowledge regarding this topic, the only base information I had was from the many times I have been injured, and had to follow a specific recovery path, with rehab exercises. I have also learned about this topic in gym class last year, when we studied common injuries caused by weight training and workouts. I gathered more knowledge from my physiotherapists, by asking about different exercises, and how to do them specifically. I also used reliable websites to find more information specifically on recovery processes between each injury. This was a tad difficult because not all sites have valid and reliable information, so I needed to be very careful when choosing which sources to use. To make sure the information was correct, I didn't use wikipedia. I checked the specific name of the source, and made sure multiple sites had the same information, to be sure it was correct. I found that the most helpful site in finding valid information about each injury was <https://www.mayoclinic.org>, because it provided a vast amount of information, and many pictures to support as well. When comparing this site to the others, this was easier for me to understand and process because I believe it was organized better, with a clearer structure. Overall, finding a topic and knowing how to research it was quite simple, but took lots of time to complete.

Criterion B: Planning

I started my planning stage by making a five section criteria table, that I would be able to follow throughout the research and making of my project. It consisted of five different specifications, on what to complete and how to do it. The first section told me I needed to research a total of ten different injuries. The next section stated I needed to include five different exercises for each of the ten injuries I have chosen. Another section said that I needed to talk to at least two different physiotherapists to gather more information on how to perform each exercise properly. My criteria also stated how I needed to take a total of at least fifty pictures for my final product. The last section of my criteria made sure I gave a minimum of 150 words for each base paragraph, for every injury. Strictly following the criteria I created helped me produce a detailed and well thought out product. I followed the criteria very carefully, making sure to complete every aspect, and met each deadline set at the beginning of the project. Throughout the project, I was focused and on task when I worked at home, but when I had work blocks in school I discovered it hard to eliminate distractions and give my full attention to my work. This led to me needing to do most of my work at home, rather than seizing the time given in classes. I used specific deadlines that I created for myself to make sure I was on top of everything. For example, I made sure my research and notes would be finished by the beginning of December and that my final product would be done by the start of February.

Furthermore, I met with my teacher supervisor a total of three times, each time being very productive and a good conversation. The first meeting occurred on November 1st, and we discussed my notes, research question, criteria, and what sources I can use when researching. My second meeting occurred in January. 20th, and consisted of discussing my final product, how it was going to look, and when I would be finished it. The third and final meeting occurred

on February 10th, and consisted of discussing where I'm at, and what I need to accomplish over the next week. To sum up, talking to my supervisor as well as planning my project was very helpful in the long run, and helped me achieve what I was looking for in my final product.

Criterion C: Taking action

First of all, when I finally completed my project, after many months of hard work, I knew my goal had been achieved and exceeded. I knew this because at the beginning of my project, I set the goal of making a book to showcase my hard work and research. I ended up making a book and an online powerpoint, surpassing what I originally thought would be my outcome. My booklet obtained lots of detail and demonstrated my hard work. The powerpoint, being almost identical to the book, but an online version, was very packed with information and thought out sentences. In the process of making these two things, I was very stressed, worried, and anxious because of the amount of work I had to put in. Once I finished both, I can now say it was definitely worth working many hours on end to make it the best of my ability. I used different skills on the computer and by hand on my booklet, powerpoint, and trifold. Even though I am not very artistic, I felt the way I adapted was very smart and efficient.

As the project went on, I found that the goal I set for myself was very attainable, and I would be able to add an online powerpoint to my product. This was found because my teacher supervisor, Mr. Taylor, gave me the idea to include an online presentation, alongside my physical copy, which is the book. The feedback Mr. Taylor provided me with was helpful and valid. I reacted to his suggestions very well and did my best to apply it all. Throughout the

project, I did not need to change my goal at all, it has always been a reachable goal, which didn't need altering at all. From the very beginning of the project, when people asked me what I was doing, I was able to clearly explain my ideas and final product with loads of detail. I used my project to help others develop an idea that might work for them as well. Furthermore, I took lots of time to create a revised and edited final product. I started with a draft of my final product, then I had my mom and sister read over it and make corrections. I used their feedback as I saw fit. Then, once I had my final copy ready, I had my mom and sister read over it again before I printed it out. Once I had their approval, I also got it checked with a classmate (Mahara Remtula) and my dad. Before I printed it, I was also constantly thinking of ways I could better my project, and make it one step better each time. Finally, I then printed it out and put it together.

To continue, there were many challenges during my project that made an impact on how I worked and how my product turned out. One challenge in my way was my very busy schedule, getting in the way of working. I am a multisport athlete, and recently my volleyball season has started, which has altered my time to work on the project. I overcame this issue by using the time I did have to work, very wisely. Another challenge I had was getting a new puppy right in the middle of the project. I have always wanted a dog, and I'm not saying I'm upset in any way. It just meant that time working on my project, was taken away from my dog responsibilities. I also overcame this issue by utilizing school workblocks, PLT sessions, and lunches very well. Overall, working on my project was very hard and time-consuming, but in the end, once I finished my product, it was all worth it, I felt that I achieved something big.

Criterion D: Reflection

To begin, I feel like, when completing my final product, I successfully achieved as well as exceeded my goal. The goal I set was to produce a book that represented my expanded knowledge on the topic of rehabilitation. I exceeded my goal by making an online powerpoint. The project took many days to complete, but once I reached and surpassed my original goal, I knew all the work I put in was worth it. During the process of my project, I had to alter a few little things. For example, when I was writing paragraphs for each of the ten injuries, I had originally wanted to have 100 words minimum, but I then changed it to 150 words because I had more information than I was expecting. This specific change I made helped my product grow bigger and added more detail than I would have originally had. I believe this was a good move because it may be the difference between a positive and negative outcome when I receive my final mark.

Additionally, based on my personal criteria and specifications I would reward my final product with a 7. This is because I met all of my 5 specifications in my criteria and exceeded a couple of them. Doing this and forming my final product with lots of care, time, and effort put in, is what will bring me the mark I desire. I also had some challenges in the process of building my final product, one being, not having artistic abilities. I overcame this challenge by using my tech skills to create a nice, and creative book online and then printed it from there. Another challenge that I overcame during the project was being told that I didn't have to put in-text citations into my final product, therefore not doing it, and printing it. I overcame this issue by talking with Ms. Korber and Ms. Tong about what I could do without having to reprint the whole thing. We collectively came up with the idea of Chicago citing, and using the footnote technique to refer each of the sources to the correct sentences. I'm happy with the way I overcame this issue, but if I went back in time, I would have double checked with more than five people and made sure

with my blueprint that what people were telling me was correct. These two challenges and the way I overcame them, are part of the reason why I think my final product should receive a 7.

To continue, from my investigation, I learned a lot. The first and biggest thing I have learned is that I really enjoy researching the topic of injury rehabilitation. This makes me believe that maybe physiotherapy is the right path for me. After completing this project, I can definitely see myself pursuing this in the future. Another thing I have learned from doing this project is that all different types of sprains and ligament injuries, whether it's your arm, wrist, ankle, shoulder, and any other body part, is always divided into three different grades²³. In all cases, grade one is the least painful and will take the shortest to heal, grade two takes an average time to heal and is quite painful, and grade three is the most painful and will take the longest to heal²³. I have also learned that tendon or muscle damage, in some cases, can take longer to heal than a broken bone, this is because the bones tend to heal better and will cause less future damage²⁴. Another thing I have learned is that there are five stages in injury rehabilitation. They consist of reduction of pain and swelling, restoration of joint mobility and range of motion, recovery of muscle strength and endurance, recovery of coordination, and recovery of sport-specific technical movements.

I have also learned multiple skills from doing this project. They include using different types of citations, utilizing online tools for my book, I learned how to speak with professionals about their job, and most importantly I learned how to do some exercises I have never known how to do. The skill of being able to use multiple types of citations is quite helpful, in the sense that I can utilize them in future projects and work. Learning the skill of using online tools to create my book will be very helpful in the future, when I'm asked to create something that takes

lots of artistic ability. This is a way I can show my creativity and effort without having to use pens, pencils, and paint. The skill of learning how to gain knowledge and speak with a professional will be very helpful when it comes time to find a job. It gives me an idea of what an interview would be like, and how to address every situation in a formal way but also gain lots of knowledge from what is being discussed. The last skill that will be very helpful for me, if I continue experiencing injuries as much as I am now. The skill is being able to perform and practice a variety of exercises for quite a few injuries. The knowledge behind rehabilitation exercises and processes will help speed up my personal recovery time as well. I may also be able to use this skill to help my friends and family out if they experience an injury that requires physical rehabilitation. These skills are all skills that are sure to help me in the long run.

To add on, I now have a wider knowledge on what my global context is all about. Scientific and technical innovation explores the natural world and its laws, the interaction between people and the natural world, how humans use their understanding of scientific principles, the impact of scientific and technological advances on communities and environments, the impact of environments on human activity, and how humans adapt environments to their needs ²⁵. My project shows how human's use scientific and technological innovations to better healing processes. Rehab is constantly bettering society and society's needs. It is something that is constantly improving, and will continue to improve until researchers have found the best and most efficient way of a rehabilitation process. Moving on, if I ever do something similar to this project again, I would make a couple of changes. First off, I would remember to use in-text citations in every scenario, even if it isn't asked. This is to avoid having to do it last minute or getting caught with plagiarism. Another thing I would do would be to write my journal each day, with detail, as I would be when I'm handing it in. This avoids

having to go back and re-do some of the entries, filling in blanks, and having to add more detail nearing the end of the project. The last thing I would change would be making my powerpoint vary from my physical copy (the book). Having each final product vary and focus on different things would be more intriguing for the reader, as well as have more information included. As of now, both my products are very similar, except for the fact that one is an online copy and one is a physical copy. When the time comes to hand in my final product, I am only going to hand in the physical copy because I feel that it is better and harder worked on than the online powerpoint. These topics of what I may change next time are very valuable to me in the sense of knowing what I can improve. These tips will be sure to help me in the future, and to me, making mistakes is the first step in learning something new. After doing this project, I definitely feel that my capstone will come much easier to me, because of the effort put into this project. I can use the new skills I have learned completing this project, and take them into use when completing my capstone in grade 12.

Throughout this project I learned that I'm very interested in physiotherapy and that I use my time very well. First off, being interested in physiotherapy started around a year ago, when the project was first explained to us, during grade 9. This interest has strongly grown through the process of completing my personal project. Now my eyes are very open for the possibility of pursuing physiotherapy in the future. Learning that I use my time very wisely throughout the project, taught me that if I work hard to do multiple things, I will get it done. I knew that I managed my time somewhat well before the project. Completing the project, with many other sports and homework going on, showed me how powerful I can be when I put in all of my effort and focus. These two things that I learned about myself are sure to be helpful in the future. To continue, I found myself displaying a few learner profile qualities throughout different points in

my project. The three qualities are being reflective, being a risk-taker, and being open minded. For example, I was very reflective when writing all of my journal entries, because in each of them I reflected on what I did that day. I also took quite a few risks when putting together my final product. The first risk being not having my book professionally printed and instead, doing it myself. Another risk I took was using Chicago citing instead of in-text citations, to avoid having to redo my entire project. As another example, I was very open minded when recommended by my teachers Ms. Tong and Ms. Korber, to use footnote citations instead of in-text citations. They offered this to me because I completed my project, making the mistake of not including in-text citations, making my other option to redo my entire product. I kept an open mind and took their idea into consideration and ended up utilizing it very wisely.

23: "What Is the Difference between a 1st, 2nd and 3rd Degree Sprain?" . What is the difference between a 1st, 2nd and 3rd degree sprain? | SFU OLC. Accessed February 5, 2020. <http://www.sfu.ca/olc/node/23531>.

24: Core Concepts Pte Ltd. "Better to Break a Bone than to Tear a Ligament or Tendon? Ask Your Physio." Core Concepts Physiotherapy, January 21, 2020. <https://www.coreconcepts.com.sg/article/better-to-break-a-bone/>.

25: "Robinson Secondary Library: IB MYP Personal Project - Class of 2021: Scientific and Technical Innovation." Scientific and Technical Innovation - IB MYP Personal Project - Class of 2021 - Robinson Secondary Library at Robinson Secondary School. Accessed February 5, 2020. <https://robinsonss-fcps.libguides.com/c.php?g=818395&p=5891504>.