Reflective Essay

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Introduction

Over the course of my cybersecurity degree I have learned new skills as well as sharpened previous skills. My time engaging in many courses and projects from different disciplines has allowed me to do this. The three most important skills that I have developed are: Communication/Collaboration, Cyber Technical skills, and Critical Thinking skills. Cybersecurity is often seen as a very technical field and while that may be true there is so much more to cyber security involving other disciplines than we may think. Cyber security is an interdisciplinary field, some of the classes that I have taken that highlight this were: Criminology, Cyber Terrorism, Cyber Security and Social Science. These are a few of the classes that are centered around cybersecurity but contain other themes and disciplines. Some of my Non-Cybersecurity classes have also aided in developing my skills. Public speaking classes as well as art classes have really helped me especially when it comes to communication and critical thinking. I believe that allowing ourselves to have fresh mindsets is what makes us grow.

Skill 1: Communication/Collaboration

Communication is an incredibly valuable skill, especially in cybersecurity as many projects will need collaboration and teamwork to get done. Understanding collaboration is also extremely important. The main idea behind collaboration is joining two or more things together. This idea is very important considering cyber security is interdisciplinary. I have gathered a few artifacts that are the embodiment of my understanding of communication and collaboration.

Artifact 1: Interdisciplinary Research Paper

This piece was written in my IDS 300W course which focuses on the interdisciplinary properties of cybersecurity. This paper required me to conduct research from multiple scholarly sources from multiple disciplines. I then had to unify this information in an essay on cybercrime and the internet. This piece is written with the idea that there are larger aspects to cybercrime and the future of cybersecurity through understanding societal and crimenological trends. This paper forced me to break out of my limited view on cybersecurity and apply other disciplines to the field.

Artifact 2: "Between the World and Me" Presentation

This presentation was created in my American History class. In this class we would oftentimes have open discussions on our opinions and interpretations of North America's history. I was tasked to read a book written by Ta-Nehisi Coates. I had to write an essay as well as perform a presentation on my interpretation of the book to the

class. This allowed me to practice my communication skills as I would be publicly speaking as well as answering questions in front of the class. This ensured that I would have to be formal and professional in my speaking skills.

Artifact 3: Creatine Presentation

This presentation was a part of my public speaking course and tasked me with crafting a persuasive argument in the form of an informative presentation. I had to combine both elements in order to be successful in my delivery. The Slideshow contains information on Creatine which is a supplement to help with higher energy when lifting weights. I presented my argument to a class and answered questions people may have had about creatine. This presentation was one of the first times I was tasked with speaking to a class. At the time it was nerve racking but looking back it was invaluable to the development of my communication skills.

Skill 2: Critical thinking

I believe that critical thinking is probably the most important skill to have and develop as everything we do in life requires it. Particularly in cybersecurity, Critical thinking is important due to how much cybersecurity varies from each case as well as how fast the technology is evolving. These factors require cybersecurity professionals to always learn new things effectively and efficiently, this requires critical thinking.

Artifact 1: Cybersecurity Research Piece

In this essay I was tasked with writing an informative piece on cybersecurity. I was supposed to be able to explain the importance of cybersecurity and having proper cyber hygiene. This seems like a simple assignment but I had to explain cybersecurity and key concepts as if the reader has no idea what I'm talking about. This made me think carefully about everything that was being said. As broad as cybersecurity is, I had to hone in on the important parts but also give enough information so that the reader could walk away satisfied with what they have learned.

Artifact 2: Configured Home NAS

This was a personal project in which I assembled a NAS and then configured it as well as some other firewall rules. This was truly the first time I had engaged in a hands on project with real networking equipment. I used physical networking equipment in order to make sure the NAS was running properly. Through trial and error and critical thinking I successfully made the NAS for my friends home network. I then had to write rules within the software in order to create boundaries for who had access and who didn't. This project taught me that critical thinking goes a long way when facing an unfamiliar task.

Artifact 3: Scaffolding Project

The scaffolding project was a part of my CYSE 495 class. In this class we looked at cyber security from a societal perspective. Looking deeper into what causes cybercrime and cyber terrorism at a fundamental level. Looking into the lack of legislation we have to properly deter cybercrime and the means to enforce the conceptual legislation. This was a very interesting class and its very unique assignments always made me think outside of the box. From podcast reviews, discussion boards, in class discussions, and documentaries I learned a great deal about societal causes of cybercrime. The Scaffolding project is the embodiment of what I learned over the course of my time in this class. It contains pieces from every aspect of the course.

Skill 3: Technical

In a field like cybersecurity technical skills are very important especially when it comes to cybersecurity practices and understanding key concepts. Cybersecurity and computer literacy is rarely taught so having the fundamentals is extremely important. Over the course of my academic career I have honed these skills through countless projects, labs, papers, and other assignments. Understanding cybersecurity practices will help me with continuing my career.

Artifact 1: Steganography Lab

This lab took place within my ethical hacking and penetration testing class. Within this class we took a deeper look into cybersecurity practices from both the red team and blue team point of views. This unique point of view allowed me to learn new skills and realize that cybersecurity is a proper mixture of applying both teams to all issues. Through the use of virtual machines I was able to embed a file within an image and then extract the file. This lab used my previous Linux skills in order to successfully complete it.

Artifact 2: SQL Injection Lab

This lab also took place within my ethical hacking and penetration testing course. I used virtual machines in order to use SQL injection to gain access to a web page's sensitive information as well as bypass the login page entirely. This lab really taught me about configuring virtual machines in order to run them efficiently. I also become familiar with basic penetration testing concepts and terms. This lab allowed me to further my skills and understanding in the technical aspects of cybersecurity.

Artifact 3: Home Network Design

This was a diagram I had to come up with for my IT 315 course which focused on networking practices. I used my previous knowledge of networking and personal projects to successfully create a diagram of my home network infrastructure. I have the devices and how they are connected as well as the router and modem. This simple

diagram helped me to get a deeper understanding of how everything worked at the time.

Conclusion

All of the classes and assignments I have had to complete have led me to the point I am in my career today. I have had to adapt and develop new skills as well as sharpen older ones in order to overcome problems that I have faced. The Interdisciplinary approach that I have had to Take throughout my college career when working in different environments and with different topics that may or may not affect cybersecurity have allowed me to excel in my very understanding of it. All of these artifacts are only a small glimpse into the countless hours that have made up my college career and what is my understanding of cybersecurity today. Taking non technical classes was one of the most valuable ways that I have been able to form an interdisciplinary view on cybersecurity. Understanding that there is more to a cyber attack than just words on a screen will help me tremendously. Evaluating threats from all angles is how we will keep cybersecurity an important and effective part of society. If we apply this interdisciplinary view to all aspects of life we will be able to grow as humans and make the world a better and safer place.