Growing Into Cybersecurity

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McAdams (2001) described thematic coherence as identifying "an overarching theme, value, or principle that integrates many different episodes in" one's life. My own story about how I ended up in my major isn't built on specific events, but more so an underlying theme, computers. From early life through to now, I have spent a lot of time using computers. While writing this paper, I remembered a lot of details which I might have otherwise forgotten about my own narrative. Nguyen (2013) found “ePortfolios as a way to … expand on prior understandings and ways of being, and to create a coherent narrative of past, present, and future.” By writing this paper for my own ePortfolio, I fully agree. Here is my story on how I grew into cybersecurity.

Before Middle School

I grew up with a brother who is about 2 years older than me, my mother, and a father that works in cybersecurity. Following in my dad’s footsteps wasn’t exactly what I tried to do and you’ll see that with my story. We had a family computer that we shared and some days I would spend hours on it at a time playing video games. My brother also spent time on the computer and at some point, he was given his own computer, so I got to spend more time on the family one. Eventually, the family computer became my own and I shared a computer room with my brother. Sometimes my dad, brother, and I would play video games together, though I cannot remember when exactly that started.

I attended two different elementary schools and I vaguely remember having computer classes at one of them. I do remember that at my second elementary school we had typing lessons on these dedicated hardware typing machines for learning, but I unfortunately didn’t stick to typing properly and continued looking and poking at keys. In 5th grade, I was invited to

attend an after school activity for gifted math students at the career and technical center in my county. It ran for a couple days and I only vaguely remember some of the activities that we were split into groups and rotated around. One of them was using computer modeling software and I remember the other students and instructor being impressed with my work.

Middle School

It was during middle school that I started doing more with computers than just playing video games and browsing the web. In 6th grade, my brother suggested that I join the technology club at our middle school, which he was a part of. The tech club was hosted in the library before school and was split up by topic. I went into the gaming subgroup because of my interest in playing video games, but that subgroup was about making games instead of playing them. To that end, one option was to use Scratch (https://scratch.mit.edu/about), but instead I wanted to learn a programming language. My brother lent me his beginner Python programming book and so I began learning the very basics of coding in Python. During 8th grade, I was given the opportunity to apply for high school specialty centers that had classes beyond what is typical for specific topics. I was accepted into the specialty center for information technology where I took classes in several IT subfields including programming, computer networking, computer hardware, and cybersecurity.

High School

In 9th grade, I didn't have any agency for my class schedule yet and had to take Advanced Placement Computer Science Principles (AP CSP). That class did introduce a range of IT topics but was mostly a programming class. We were following along a curriculum on a platform called Code.org (https://code.org/en-US/about). I do remember one of the interactive cybersecurity

modules on there being cracking substitution ciphers using letter frequency analysis. For our AP exam in AP CSP, we had to do a programming project on the platform and I received a 4/5 on it.

Then in 10th grade, I was able to choose to take my first networking and cybersecurity classes, Cisco 1&2 and Cybersecurity Fundamentals. These two were both on the Cisco Networking Academy (https://www.cisco.com/site/us/en/learn/training-certifications/training/netacad/index.html) platform. Cisco 1&2 covered the basics of computer networking and how to configure Cisco switches in the command line. For the switches and other hands-on labs in both classes we had a set of 12 lab computers and 6 switches at the back of the classroom. Cybersecurity Fundamentals was following the Microsoft MTA Security Fundamentals certification. The county gave us two exam vouchers per student, so we took one exam at the beginning of the year as a pretest. I did not pass at the time because I hadn't learned much about cybersecurity yet. The class covered a wide range of cybersecurity topics. One of the activities we participated in was Carnegie Mellon University's capture the flag competition, picoCTF (https://picoctf.org/about.html). The competition had various challenges for us to solve by finding a specific bit of text, being the flag, to submit for points. Unfortunately, that was the 2019-2020 school year which was cut short due to the pandemic and I never got to finish the content or take the certification exam again.

11th grade was looking like it was going to be fully online and I didn't want to miss out on hands on labs, so I chose to take two programming classes. One was just called Programming and was previously called Programming, Gaming, and Robotics. That class just went into the basics in a couple of programming languages like Python and JavaScript. The other programming class was Advanced Placement Computer Science A (AP CSA) which was a year of learning the Java programming language. I did quite well in both and enjoyed taking

programming classes online as there were fewer distractions and I could work at my own pace. The AP CSA exam had multiple choice questions as well as a free-response section where we had to write Java code without being able to compile and test it and I received a perfect 5/5 on that. It was during this year that I found that I enjoyed cybersecurity the most because it had encompassed those other areas when learning about cybersecurity broadly and wanted to pursue cybersecurity going forward.

For 12th grade, I wanted to take Cisco 3&4 but was unable to fit it with my other classes. Thus, I was only able to take the second cybersecurity class, Cybersecurity Software Operations, and a class on computer hardware, Computer Systems Technology. The Cybersecurity Software Operations class went more into depth on cybersecurity topics and was in preparation for the CompTIA Security+ certification. At the end of the school year, I did end up passing the Security+ exam along with two other students in my class. The Computer Systems Technology class was in preparation for the CompTIA A+ certification, but unfortunately the county decided not to give us any exam vouchers for it. There were some nice hands-on labs in that class like taking off a CPU cooler, taking out the CPU, cleaning it, putting it back, applying thermal paste, and putting the cooler back on. By the time I started looking at colleges, I already knew that I wanted to study cybersecurity and looked around specifically for that. There weren't too many colleges at the time with cybersecurity programs and some were just minors without many course options. Out of the colleges I applied to, I decided to go with Old Dominion University because of its Cybersecurity B.S. major and wide selection of courses.

College

In my first semester, I joined the cybersecurity Living Learning Community (LLC) where I would room with another cybersecurity student and take 3 cybersecurity courses together with

other students in the LLC. Following that and because of my previous cybersecurity studies in high school, I started mostly taking major courses, spreading my general education requirements into the end of my Junior year. One of the big requirements for the Cybersecurity degree here at ODU is taking either the internship or entrepreneurship courses. The summer after my Junior year was when I planned to take the internship course, but to do so I needed to secure an internship concurrent with taking the course. After applying for quite a few, I ended up taking on a volunteer role at Tech For Troops as an assistant technician. For the internship course I journaled my working hours for reference when writing the intermediary reflection papers and final paper. Another one of the course requirements was to put the final paper on my ePortfolio which really wrapped up my internship experience. I am currently applying for and really hope to get an entry-level cybersecurity job.

References

McAdams, D. P. (2001). The Psychology of Life Stories. *Review of General Psychology*, *5*(2), 100–122. https://doi.org/10.1037/1089-2680.5.2.100

Nguyen, C. F. (2013). The ePortfolio as a Living Portal: A Medium for Student Learning, Identity, and Assessment. *International Journal of EPortfolio*, *3*(2), 135–148.