



Jenny Livingstone

Mathematics Teacher

West Springfield High School

B.A. in Mathematics, WSU, '05

M.Ed. in Education, WSU, '11

As a high school student, I felt out of place. While most students excelled at an academic subject, sport or club, I did not. My joy came from helping people. This joy turned into my passion for teaching. I started tutoring students after school and realized that mathematics was going to be my specialty, because I felt that was where the most need was and I was good at helping people learn it. I spent over 500 hours volunteering as a tutor during my junior and senior years of high school. I also spent my study hall as a teaching assistant in one of our middle school math classes. By the time I graduated it was clear to me that I was meant to be a middle school math teacher and I was determined to do anything to reach that goal. That being said, I did not excel in math. I was an average student who took a few honors math classes and finished off my senior year with a trig class. I was not a straight A student and had not even entertained the thought of majoring in math. It wasn't until I became a student at Westfield State University that I fell in love with math.

Professor Hotchkiss called me before school started and convinced me to take Calculus I my first semester instead of Precalc. I was nervous, but decided to give it a chance. Calc I with Professor Hotchkiss was when my view of mathematics changed. I went from an average student whose plan was to meet the minimum requirements for a middle school teaching degree to a student who absolutely fell in love with math. That same semester, Professor Fléron asked me to work on a special project with him for a conference called the Hudson River Undergraduate Mathematics Conference. This was a big deal. I asked if he was serious because I didn't think I was that great. He obviously saw something in me that I

wasn't ready to see. We created a phenomenal presentation called Naming Large Numbers based from ideas in *The Book of Numbers* by Conway and Guy. When it came time to deliver my talk, there was standing room only. It was one of the most exciting moments of my life. "Naming Large Numbers" ended up being one of the most popular talks at the conference that year and it was the first time I felt like I excelled at something. I ended up speaking at the conference four times while at WSU and each time it was a special experience.

Math Club also became an important part of my time as WSU. Our club did a lot of fun activities for the majors on campus and the children in the community. We hosted a Christmas party every year, at least two whiffle ball tournaments with the Economics Club, and rounded out each school year with a bar-b-que. We put on a Math Fair at the local Boys and Girls Club, where elementary school kids worked with college students to learn about mathematics outside of the traditional concepts they were learning. We also helped organize the details for the Hudson River conference each spring.

In addition to all of the work I did in the math department, I also tutored at the learning center. I helped a lot of students who struggled in their math classes and I was excited to get paid for my time. I met a lot of awesome people, some of which are close friends to this day. The people I encountered at WSU became my family. I made lifelong friends with not only my classmates and roommates, but with the faculty as well. The math department in particular is a special group of people who care so much about the success of every one of their students.

When it was time for me to do my practicum, I was excited to work with one of my favorite teachers from middle school: Jim Liptak. He was my initial inspiration to become a teacher. He gave me freedom to try out innovative teaching styles that were far from traditional. I was full of passion to help each and every student in my class to be good at math. After graduating I secured a job at Hampshire Regional High School as a high school math teacher. During my ten years there I took advantage of every opportunity to learn and become the best teacher that I could be. I utilized every piece of technology that was available to me and did everything I could to help my students be successful. I enrolled in a master of education program focused on technology because I could see that was the future for education. I pushed boundaries to reach my students using online textbooks, online video tutorials, the Activboard program, and graphing calculators. For my capstone project for my Master's degree, with the help of Dr. Fleron, we took the work my students were doing with Google Sketch-Up and turned it into a journal article that was published in the National Council of Mathematics' flagship journal *The Mathematics Teacher*. In addition, I created videos that modeled the ideas in the article and posted them on a website I designed specifically for the project. In May 2010 I was hooded by Dr. Fleron ceremony where I received my M.Ed in Education.

In 2013, I was offered an opportunity to work at WSU as an Adjunct Mathematics Professor, so I took a leave of absence from my high school teaching position. At WSU I worked with the professors on the National Science Foundation grant to develop teaching materials that supported the inquiry based learning approach, specific to college math. What an awesome opportunity! I was able to take risks and therefore learn so much about teaching people to explore and love mathematics like I do. This experience gave me the push I needed to completely transform my teaching style from a teacher-centered approach to a student-centered approach.

In 2015 I left HRHS and moved on to West Springfield High School. At WSHS we are encouraged to push boundaries and take risks in an effort to develop innovative lessons and assessments for our students. I started following the work of Dan Meyer along with other innovative math teachers on Twitter. When I have a new idea and need some in-person support, WSHS's peer learning community team, which includes our high school math coach, is there to help support new ideas and bring them to fruition. As each student is loaned their own Chromebook, technologies such as Desmos, Delta Math, Geogebra, and Google Classroom are some of the powerful tools they consistently use to learn and do mathematics everyday.

Sixteen years after my first year of college one thing for certain: I made the right choice by going to Westfield State University. The relationships I built with the amazing faculty and the education I received is unmatched to anything I could have imagined. The math department at WSU has undoubtedly helped me become the teacher I am today.