Unsung Heroes of the Math World

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Interviewee: Rebecca Kaplan

When thinking of female mathematicians, a handful of notable names come to my mind. Voisin, Daubeiches, Johnson. Brilliant as they are, women in the top fields of mathematics are few and far-between. A pyramid chart can be used to easily visualize this hierarchy. The higher-up mathematicians are rare and well-recognized, while at the bottom, there is a large group of people that seem invisible to the public eye. They are the female public school math teachers. In American public schools, around 65% of math teachers are female, according to a 2021 study. Little do we realize how important they are. Public school math teachers provide a fundamental understanding of arithmetic that can be built on. Oftentimes they are the ones that open up a door for students, introducing them to the vast world of math. They are the little-known, little-celebrated, unsung heroes of the math world.

Among these women is Rebecca Kaplan. I met Ms. Kaplan on the first day of seventh grade. She is my homeroom teacher, a cheerful, bubbly woman in her mid twenties. At the beginning of every school day, she greets me with a warm smile and never fails to brighten up my morning.

Born in Tarrytown, New York in 1997, Rebecca was the youngest of three children. Her mother is a Chilean immigrant, and had a career as an elementary school math and reading teacher. Her father was born in the United States and worked as title insurance agent in New York City. As a little girl, she was energetic, a happy-go-lucky sort of kid. She played flute and violin in school, and also enjoyed playing softball and soccer, which she still does today. Ever since she began to learn math, Kaplan was intrigued by it; captivated by the black-and-white simplicity of the equations. Unlike ELA or social studies, which could have many complex, contrasting answers, math was quite simple. You were either right or wrong. “It was like solving a puzzle for me, and that’s what made it fun,” Kaplan explains.

Math she may have enjoyed, but Kaplan never thought she would make a career out of it. Becoming a doctor had always been her dream since she was young until college, when in senior year, a service trip to a school in Argentina changed her mind. Escuela #508 of Santiago del Estero might have been worn-down and dilapidated, but the principal of the school welcomed Kaplan’s group with big smiles and open arms, even decorating the school for their visit and gifting them small handmade crafts. Despite having to travel five hours from home to school, the principal devoted her entire

life to helping students of this remote area. Kaplan was deeply moved and inspired by her love for her students and dedication to teaching them well. The principal's commitment to teaching young people planted a seed of passion in Kaplan's heart, setting her on the path for a teaching career.

After getting her Bachelor of Science in Math in 2019 and her Master of Arts in Teaching in 2020 from the University of Vermont, Kaplan started working as a math teacher in Hartford Memorial Middle School. She noticed that among students, there seems to be a shared sentiment that math is hard. Kaplan thinks this is because not only was she beginning her career in the heat of the COVID-19 Pandemic, where learning gaps were at an all-time high due to hybrid, disjointed learning, students also generally neglect to appreciate the process behind solving equations, as they just want an answer right away. This is an issue Kaplan believes stems from the technology boom, where young adolescents can Google any questions and find the answer within seconds or just 'swipe away' when they find something that disinterest them on social media. She suggests that the students focus more on the variety of strategies to solve the problems and decide what works best for them; every student learns differently, but is capable of accessing the content in ways that suit them best.

Being a young teacher isn't easy. Sometimes, Kaplan struggles with the lack of respect from a few of her students. They don't take her seriously, seeing her as more of a peer than a teacher. Another challenge she encounters is that in some ways she is learning alongside her students, as the way she was taught math in school was very different from the way she teaches now. In her own words, she says, "I was always taught strategies and algorithms to solve problems, but never taught *why* we used that strategy or *how* it got us the answer."

For many of her students, math is far from the best part of their day. Kaplan understands that, but she does expect them to do their best and put in effort to persevere through struggles and learn new things. "It's okay to not know, but it's not okay to not try," Kaplan tells me. Her advice for her students is to know that they *can* do more, as long as they work hard, ask good questions, and allow her to help them.

Helping kids build math abilities for high school and beyond is her favorite part of her job. Kaplan is happy to connect with her students and be an important part of their math learning journey, changing their feelings about math from negative to positive, and channeling any frustrations into confidence, helping them strive to be the best they can.

The beauty of Ms. Kaplan's story is that her own journey to becoming a math teacher was shaped by prominent female figures in her life, her mother, the teachers she had growing up, and the principal of Escuela #508. She belongs to the group of

people who guide generations of young people to the field of mathematics, fostering an understanding, if not love, for math.

About the author:
Ayla Guryel is an 8th grader at Hartford Memorial Middle School. She shares a birthday number with the first three digits of pi, and is in her school's selective Algebra 1 class. Ayla is an avid reader and can be found perusing novels in her free time. She especially enjoys science fiction, such as the Three-Body Problem trilogy and the works of Andy Weir. When she isn't reading, she likes to play piano, observe distant cosmological objects in her backyard, draw, talk with her sister, and memorize scientific names of animals.