

Chapter 3

Effort Meets Rigor

ABSTRACT

Dr. Roni Ellington is a Professor of Mathematics Education and Advanced Studies: Leadership and Policy at Morgan State University, a public urban research university in Baltimore, Maryland. In this chapter, excerpts of the author's interview with Roni are featured in which she describes her education in the Washington, D.C. public schools during the 1970s. She began her middle school years in a lower tier mathematics class, but in eighth grade, she was placed in a more rigorous mathematics class due to a specific teacher who believed in her capabilities to engage with complex concepts and problem-solving. Roni also describes her “Transformative Framework for STEM Education,” which proposes a holistic approach to redesigning practices within institutions to more effectively forge equity and transformative pedagogy.

Dr. Roni Ellington is a Professor of Mathematics Education and Advanced Studies: Leadership and Policy at Morgan State University, a public urban research university in Baltimore, Maryland. I interviewed Roni in 2021 after attending a STEM education professional learning webinar in which she was a featured speaker.

In our conversation, we talked about Roni’s education in the Washington, D.C. public schools during the 1970s:

So, I grew up in D.C. in the ‘70s, and DC in the ‘70s was very... We call it “Chocolate City.” Right now, it's changing and it's gentrifying, but at the time, it was primarily African American. Most of the schools were primarily Black. When I got out of elementary school, I didn't perform as well. Like, I've always been smart, but I was probably one of those students that talked a lot. I'm a little rambunctious. I had my personality. (Gierhart, 2021)

When Roni started middle school, she was initially placed in a lower tier mathematics class:

DOI: 10.4018/979-8-3373-1847-9.ch003

It was this hierarchy of classes. So that meant I was “regular,” you know? We got what we got. [Eventually], somebody made this recommendation that I was misplaced. Like, “She’s smart. Why is she here?”

Now, I didn’t know, because I’m a seventh grader and my parents didn’t really know. They didn’t know the distinction, or they just knew, “You better do good work, you know? You better bring home A’s.” (Gierhart, 2021a)

Roni was placed in mathematics classes that were more rigorous from eighth grade onward. In our conversation, she spoke about a specific teacher who believed in her capabilities to successfully engage with complex concepts and problem-solving:

I was the same kid in seventh grade that I was in eighth grade and in ninth grade. But something about the context shifted. I was actually nervous, because I was sitting there with the smart kids. What was really different is the math and science education I got in [eighth grade], as opposed to [seventh]. Now, the other [classes], I guess, [were] similar, like English or history. But the math and the science was startlingly different.

And part of that had to do with Miss Mitchell, [who] taught the higher-level classes. Actually, I had devoted part of my dissertation to her, because she was one of the most rigorous math teachers I had ever had. When I was in eighth grade, I took algebra, and I just was fascinated by it. She used to comment, I’ll never forget, she was like, “Ellington, you’re brilliant!” She used to tell me I was brilliant! I was like, “I don’t know...”

And I never [previously] had the opportunity to do the kind of math that she was teaching. I remember, vividly, we had to expand a Pascal’s triangle, like “eight plus B to the 21st power.” And I understood the Pascal triangle very well. I understood the logic of it. I understood how to expand it. I don’t know where that came from, but I just got it.

So, I just got a different type of math education, and I don’t feel I was any less special in [seventh grade] than I was in [eighth grade]. But the way I was related to, the kind of math and science that I was taught, the expectations, what was demanded, it was just different. So in that context, I rose to the occasion.

I tell my teachers this all the time—we have a story about students that creates them in a particular place. When you change that story, you have no idea who you’ll get. And that’s not why I say I’m not special. I don’t see myself as special at all. I consider myself fairly intelligent, but I know some students I went to school with [who] were way more intelligent than I was, but didn’t have the same context I had. Being in a different context, being related to in different ways, having a particular kind of math and science education changed the whole game for me. I graduated valedictorian [in high school]. And I got opportunities that that came with that, particularly a scholarship to Morgan [State]. So, where I work is where I went to school—I got a full scholarship. And then the rest is history.

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