

The Math of Family: A Daughter's Quest for Knowledge

Reaping the Rewards of Hard Work and Perseverance

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“Mathematics is the sense you never thought you had,” as Eddie Woo once said. I had no idea how this could ever have any real meaning. I didn’t consider it something that could be for me. Math did not apply to me. I did not have this ability. However, my perspectives on mathematics were shaped in different ways by my experiences along this journey until I finally fell into a deeper engagement with mathematics, and it became a relevant and intuitive part of my life.

Mathematics. . . The first thing that comes to my mind: Working with numbers, making calculations, mental head-solving, and breaking your head while you are struggling with it. I always had this in mind, this is just for *personas inteligentes* (someone naturally very capable of using their brain, an intelligent, erudite person). First of all, as I can remember, I was never good enough to be considered good at making calculations.

My brain was like a party of numbers trying to be as much fun as math is supposed to be. All these numbers were always messing around in my head when at least I tried to concentrate on solving a problem. “How can people be geniuses, and how can people be very capable of doing calculations in their head so fast?” I was always considering these questions. In my family, my mother has this capability of being good at math and making all these calculations in her head quickly without any education. She does it with nothing other than just herself, something more than impressive to me, something that was the reason for creating this intuition that I wanted to become literate in math no matter what.

I remember my aunt had *un puestecito* (a local fruit stand) and she asked my mother if I could go and help her since she did not have any kids. She used to call for me or my brother. She gave me the assignment of doing the calculations to receive and give the change. My aunt was very strict and she screamed at me when I wasn't as fast at doing the calculations in my head as my brother did.

I grew up in a *pueblito* (a small rural village) in Mexico and as I was introduced to *5to-6to de primaria* (elementary/middle), and I remember having a new teacher for those years, believe me, this teacher was called *La Maestra Conchita*, hearing it as the sweetest person in the world. I knew her before. She was my brother's teacher, and she loved him as I can remember. For some reason, I thought she was going to be the most graceful thing ever to happen to me once she already knew who I was, by which I was wrong. I expected that the last years of *mi primaria* would become the most rigorous years of my life before I was introduced to the real world. I wanted to get that friendly

welcome into the world of knowledge, but despite that, my confidence in learning started to take a toll on me. My grades were something I felt defined by.

As my confidence in my learning at school impacted me negatively, which started to make me more insecure about being right about something, I couldn't get rid of those conceptions: "You are not good at math"; "You didn't get anything out of your family"; "Why you are not like them?" Those were the years when I felt helpless and inferior. During these years was when they came to have a very strong negative impact on me, creating that idealization and perception that mathematics was not for me. As I started to have this threshold concept of believing that, my parents started a conversation with me about not getting insight into something before exploring it deeply and discovering it further. Getting to look at myself and analyze my perspectives, to think that if I wanted to transform this perspective, to do my best for a deeper understanding and trust myself to achieve what I want but never give up on anything until I feel satisfied with my results. That was the intuition of my parents that I will never forget. I remember the cheering of my dad, "*Tu puedes hija!*" ("We believed in you!") Voices in my head ranged from "You are not smart" and "You're not good at math" to "You're a hard worker" and "You are not good at Math, yet!" Which voice in my head was more powerful to me, I did not know. "Feelings and ideas can change, but we are always an accumulation of everything we have experienced and done" (Wardle and Downs 8-9). While my experiences were a result of this threshold concept in my head, math was not for me and I was starting to believe it, since, yes, it was something that I was struggling with every single time.

I have always heard from many teachers and shows that say, “Math is fun!” Well, I never thought math was something boring but instead something challenging. I can repeat this a thousand times: “Mathematics was never boring, however, It was something challenging.” As I grew up and entered into my first year of *secundaria* (6th grade), my parents were the ones who encouraged me to change these perspectives and encouraged me to feel capable of achieving whatever I put my mind to. When I started my first years of *secundaria* I had the confidence to obtain all the support of my parents. No matter what happened I would not give up. I commanded myself to put all my effort into not disappointing them, and that one day I would be able to show them that I was able to get over myself. During this time, I had the opportunity to have a teacher whose way of teaching us was splendid. His theory of teaching mathematics wasn’t just about solving problems to get a grade. This teacher introduced us to a new world where mathematics became humanized, that is, in the sense of part of the human language, with which he taught us to interact with it. So while I continued in my course of school, math started to take more and more interest, until I gained the confidence to introduce myself to mathematics, and that’s how math came to be on my side.

Several years later I migrated to another country, and it was difficult to arrive at a place for the first time and experience a different environment that I was not previously exposed to. When I came to the U.S. I wanted to go to the same school as my cousin, but I couldn’t because I didn’t know English. After I got transferred to another school, I remember having my first math class. This math class was supposed to be for those students who didn’t know the English language, as all I can remember was attending just

two days and seeing that the teacher was teaching really basic skills for math. I felt that they were questioning us for the fact that not knowing English was something that was an obstacle to understanding the basic things such as sums and subtractions. I felt humiliated once. Does it mean that I was a person that really didn't know anything about math? I was all confused. With my previous experience from *secundaria* (middle school) in Mexico, I was reminded of the concept that mathematics is just a language in itself, as I became better and started to get good with numbers. So I wouldn't let another language get in my way. I realized that this would be the opportunity to seize the moment to show everyone what I was capable of achieving. From that instant moment, I remember talking to the teacher. I was so nervous about what he was going to say, but I just went and told him that it was not the level of math that I should be at. He told me that I was right, the level of math that I should take was Algebra, but the reason that I could not be taking it was that I didn't know English, so they wouldn't let me take that class. After talking about this, the teacher gave us a test to find out our levels. The next day, I was transferred to the class I wanted to be in. The teachers were amazed at the results, so I ended up at the next higher level, which was geometry. Being in my first year of high school was something that motivated me to consider myself achieving what I wanted and that I was capable of achieving more. As I progressed to the next levels of math each year, I began to enjoy the journey into math and continued this journey.

Math has become an integral part of my life. What once felt like something I was told I shouldn't belong to has now formed a big part of me. I now understand why I love math—it provides me with satisfaction and relaxation as I take the time to figure

something out and learn it in various ways. My mind is constantly engaged in learning new things, which inspires me. I started at the bottom and worked my way to the top. My experiences in math were the reason that created this intuition in me to continue on this path to pursue my career as a math educator and continue becoming better.

Mathematics was once something I feared, but I eventually came to understand that it is something that can be enjoyed. I was able to learn more about math and how it can be applied in different ways. I found that math was an integral part of my life, from small everyday tasks to more complex problems. It allowed me to think critically and problem-solve, a skill I could apply in many facets of my life. I came to realize the importance of being literate in math, in an explicit way that serves humans about how to communicate and interact with other human beings and implement it in different situations. It refers to the form of communication and interaction, as well as all the influential factors in the process of becoming literate. It is essential to consider many of the different factors that are involved in our progress. To become knowledgeable in mathematics, dedication, and effort are necessary, as well as having people to motivate and encourage you. This way, you can gain new insights and experiences, and comprehend how mathematics can be utilized in everyday life. I believe that anyone can become literate in math with dedication and effort. Knowledge is not innate, but something that must be actively sought and worked on to be achieved. I was not born with the knowledge needed, but I became literate.

Works Cited

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Author Bio

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