# Importance of Personal Stories in the Context of Inclusion and Diversity in Math and STEM

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#### Introduction

Nowadays, the term EDI is something we hear very often in our academic workspaces, and in fact, it is explicitly mentioned in the official policy documents of more than 75% of Canadian universities according to an article of *University Affairs* published in November 2019.

Although these structural approaches provide us with a necessary foundation, I believe that we also need a cultural approach in order to realize a workspace in mathematics where each individual can experience a full sense of belonging and have a fulfilling work life. In this article, I am going to argue the power and significance of sharing personal stories within our work community and propose it as a tool to create a truly inclusive and diverse work environment.

#### My own experience as a math student

To share a little bit about myself, I completed my PhD in mathematics from University of Ottawa in April 2021. Before that, I obtained my MSc from University of Sheffield in England, and even before that, I was a college student in Tokyo, Japan. That's the country I'm originally from, and I also happen to be a female person.

Throughout my 11 years as a math student, I always found myself in the visible minority in the math workspace — at first, gender minority, then later, both gender and ethnic minority. One consequence of constantly being in the minority was that it was a norm of my student life and I rarely thought twice about it. Yes, I was the only female student in the room. Yes, all my professors were male. Yes, I was often the only student in the room who wasn't greeted by her classmates or her teacher. Yes, I felt awkward many times. But for a very long time, it never crossed my mind that these were things to be addressed.

In my final year of undergraduate study, I signed up for a directed reading module and every week I showed up to the seminar, working on my reading material under the guidance of my supervisor. According to the syllabus, I was supposed to write up a survey paper about things I learned in the reading module. But my supervisor never mentioned it to me, and I felt too shy to bring up the topic during the seminar. One day, about two weeks before the submission deadline, I suddenly got a message from my supervisor saying that since I wasn't working on a paper, he was going to give me a failing grade for this reading module. He asked me for my consent. The truth was that I was writing one, it was just that I hadn't felt confident enough to tell him about it. But I eventually showed him what I wrote, and thank goodness, it was of good quality and I passed the module with an A+.

Later, I told this episode to one of my family friends, who taught English literature at another university. As soon as I shared the story, she looked at me and said,

"Isn't that a case of academic harassment?"

It was my first time hearing such a term. I had already graduated, and I considered the incident to be water under the bridge. But looking back, the treatment I received was not appropriate and could have been viewed as a harassment case.

During my time as a master's student, I attended one weekly math seminar for graduate students and staff. I arrived early and the door was locked, and when a professor came from the other side of the corridor, I asked him if I was at the right room. He looked at me as if I were an alien and said,

"Yes. But I don't think you will get much out of it."

There was nobody else in the corridor, and only I heard this comment. I was too surprised to even respond. I just went into the room and attended the talk anyway, though the first 10 minutes of the talk were definitely ruined by my watery eyes. Here was another daily case of harassment.

Another consequence of constantly being in the minority was that I did not have anybody around me to talk about these sensitive incidents when they happened. And when I did not share my experiences with other beings, negative incidents were internalized within me. I believed that people would do and say those things to me because I was not as good as other students in terms of my mathematical capacity. I was physically quite lonely to begin with, but in this way, I became emotionally isolated as well, feeling invisible in my own workspace, which in turn greatly affected my mental health.

### The uOttawa Women in Math Club: the impact of story sharing

In my second year of PhD at University of Ottawa, I learned about the newly established student group called the uOttawa Women in Math Club. It was a group founded by two undergraduate students, Alex McSween and Maria Elisabeth Schriemer, with the intention to connect women students and faculty members in mathematics. At the time, my life as a PhD student was still quite a lonely one, enduring subtly disturbing daily incidents as a minority math student and endlessly blaming myself for whatever was missing from me as a person to have a fulfilling journey with mathematics.

My perspective was changed forever when I joined the executive team of the uOttawa Women in Math Club and started working closely with other women math students. Together, we organized an annual Women in Math panel event, monthly speaker series, a book club, and in between we talked about our daily student life. It made me realize two things. First, I had never even had the chance to talk about daily stuff with my cohorts before. Second, there was a great sense of relief and connection in sharing what was happening in each other's student life and how we felt about it. We laughed together about funny incidents, expressed concerns and discussed possible solutions when somebody had a problem, and celebrated each other's wins.

Having realized the power of sincere conversations, in my second year in the Club, I hosted a biweekly teatime event called Tea Chat. In each session, we chose a conversation theme and talked about it over tea and snacks. The themes varied from the sense of isolation we felt within the community to what inspired us onto the journey of mathematics. The event became popular among the women students both in undergraduate and graduate programs, and I heard from quite a few participants how the conversations at Tea Chat had helped them to feel that they were not alone in the journey and keep a healthy view when faced with a tricky situation at work.

I personally attribute a great part of my successful completion of PhD to my participation in the Women in Math Club. The presence of the cohorts I met in the Club was what made me feel seen in my otherwise estranged workspace and constantly reminded me that I was both a capable and valuable person who deserved to succeed in her study just like anybody else.



Figure 1: The International Women's Day Panel, March 2020



Figure 2: Being able to share my wins and struggles with other women math students saved my life as a PhD student



Figure 3: The popular biweekly event Tea Chat was a place to talk about vulnerable topic over tea and snacks

# Encounter with "Truth Values" and its first Canadian Tour

In April 2021, just when I was finishing my PhD, I was led to a talk by Gioia De Cari, a New York-based artist and 'Recovering Mathematician', at one of the AWM (Association for Women in Mathematics) speaker series. It was a story of her personal journey – how she was once a graduate math student at MIT, how she suddenly decided to leave math and seek a career in the arts, how she promised herself never to talk about math again, and how after many turns of events she was led to create an autobiographical play "Truth Values" which depicts the life of a female math graduate student with a deep observation and a touch of humour.

In her talk, Gioia mentioned how the play "Truth Values" had toured around universities in the United States and how it had transformed the local STEM community by initiating an honest conversation around the topic of inclusion and diversity at STEM workplace. And I thought to myself—"I want to host this play in Ottawa!"

With my pounding heart, I went to Truth Values' official website, clicked on "Book a Tour" and wrote that we would love to host a performance of Truth Values at the University of Ottawa. A few weeks later, I heard back from Gioia herself – she was thrilled to talk about the possibility of the play's tour to Ottawa. "The play had never toured outside of the States," she said. "It would be wonderful to finally cross the border and deliver the show to the Canadian audience!"

To this day, I am indebted to Gioia's unusual courage to decide to trust me and my team of colleagues, who had no prior experience of hosting a show, to work together to bring "Truth Values" to Ottawa.

The fundraising journey was a challenging one. At first, many people at the University of Ottawa we approached did not think it was possible to raise such a big amount of money. The reason for such a passive response was probably because "Truth Values" was not yet well-known in Canada and it's not a usual practice to invite a theatre performance as part of an EDI project. However, we slowly found our sponsors, starting from the NSERC Chair for Women in Science and Engineering, CAIMS, and the Fields Institute. This year, two more universities joined the "Truth Values" first Canadian Tour: the University of Toronto and the University of Waterloo. As the momentum grew, our fundraising journey also took off, and in June 2022, we finally signed the contract with the theatre company.

"Truth Values" will come to the University of Ottawa on 15<sup>th</sup>-17<sup>th</sup> September 2022, with three performances each followed by a post-show panel discussion. Visit **our event website** for more details. You can find the tour schedule **here** as well. If you live nearby, you are warmly invited to join this epic EDI event in mathematics and STEM!

One unique aspect of "Truth Values" as an EDI initiative is that it allows us to look at the topic through a person's personal stories rather than data. By watching the play, you are bound to reflect upon your own journey and think about what is *your* experience with inclusion and diversity. It will be a great place to start discovering each other's unique stories and together envisioning a better workspace for all the community members.



Figure 4: Photo by Silvana Ximena, Performance of "Truth Values" by Gioia De Cari

### Creating a safe space where our personal stories are shared and valued

I truly believe that the foundation of a fulfilling and successful work life – even in a theoretical subject as mathematics – is a sense of belonging in the community. As humans, we thrive when we feel our presence matters. Sharing our personal stories is the easiest yet most impactful way to nurture such mutual connection. I aspire to be a force that listens to each person's personal stories and initiates a safe workspace where every mathematician can be acknowledged not just for their work but for who they are.

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