INTERVIEW

WITH DR. AYESHA KHAN

SCIENCE MEETS COMMUNITY: MCMASTER UNIVERSITY AND COMMUNITY-ENGAGED EDUCATION IN SCIENCE

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ABSTRACT

At McMaster University, community-engaged education gives students the opportunity to contemplate the importance of their learning on a broader level. Dr. Ayesha Khan's influence on this type of education in the Faculty of Science is important due to the impact it has made and will continue to make in the future. Community-engaged education in science allows students to approach what they are learning from different perspectives and to understand how it applies to different groups of people. As individuals in the Faculty of Science are trying to make a positive impact on outside communities through what is learned and taught within science courses, community-based education is crucial and fortifying for the parties involved.

Dr. Ayesha Khan, Ph.D.

In January 2019, Dr. Ayesha Khan became the Associate Director of the School of Interdisciplinary Science at McMaster University. She completed the entirety of her post-secondary education at McMaster University attaining her Ph.D. in Behavioural Neuroendocrinology. In 2013, after teaching at the University of Toronto Mississauga and Ryerson University, Dr. Khan returned to McMaster University to teach in the Life Sciences program and in the Department of Psychology, Neuroscience and Behaviour. Dr. Khan took inspiration from the then President Dr. Patrick Dean's letter, Forward with Integrity, and implemented the principles she cultivated from this letter into her teaching approach. This occurred through the integration of community-engaged education projects in some of the courses she taught and currently teaches. These projects are known as MacEngaged and involve the translation of relevant scientific information to benefit the community by fulfilling a civic duty. Dr. Khan is empowered by the interactions she has with her students as well as their enriching and mutual learning experiences.

► **You have recently been appointed Associate Director of the School of Interdisciplinary Science (SIS), how have your role and your day-to-day experiences changed since beginning this role?**

On a day-to-day basis, I think about trying to answer

the following questions: How can we innovate so that our students are getting the highest quality education? How can we have more connection with our students so that we feel they are interacting with faculty members in a way that is meaningful to them? How can we recruit more instructors who are disruptors and innovators in their approach to delivering high-quality education? I'm in a wonderful position to not only think about curriculum design and student experience from the perspective of the classroom that I teach in, but also at the program level. It is very gratifying to be able to think about the student experience on a broader scale. No day is the same, and I love that!

► **What are some of the challenges for students when implementing this community-engaged education?**

One of my personal philosophies in life is that there has to be some amount of challenge for growth to occur. For example, take the analogy of exercise. If a student goes to the gym and experiences an easy and effortless workout, will that produce a change in their endurance and result in muscle growth? Probably not. At the same time, one is not going to challenge themselves with the aim of lifting a 150lb dumbbell because that is not realistic either. My goal is to challenge my students with a reasonable amount of difficulty in figuring out solutions to real-world problems which at the start don't seem very clear. I aim to do this because that is what will be expected of them in the workforce regardless of the careers they pursue.

"There has to be some amount of challenge for growth to occur"

► **Where do you feel community-engaged education stands in the science community?**

There are many definitions and interpretations of community-engaged education. In a nutshell, it is placing the student in an experience that helps them to think about the workings and needs of a particular community in a non-intrusive and non-judgmental way. There should be a reciprocal benefit to both the community and to the learning of the student. At McMaster University, there is a lot of support for community-engaged education. The challenge for us in the Faculty of Science is how to bring authentic experiences to our students. From my perspective, it is important to curate creative experiences so that students learn the benefit of community-engaged education through exercises that are well-crafted with ample support from peer mentors, teaching assistants, and of course the instructor. And at the same time, we must not be a burden to our community partners.

► **Do you have any specific community-engagement projects that you have seen start in the classroom and continue to live on after the class concludes for the semester?**

Students in my neuropsychology course have formed clubs that are raising awareness about Parkinson's Disease. Others have donated many resources from their projects to schools across the world, as far as Korea and Bangladesh. There have been items that are donated to student organizations on campus as well as local community centres. For example, students in my Life Sciences seminar course donate brochures on reproductive health to the *Student Health Education Centre* on campus. I have also partnered with *Bleed Free McMaster* to donate student designed health kits to local shelters. Through my partnership with *Let's Talk Science*, countless teams have had access to schools to share their knowledge about the inner workings of the brain and how to maintain brain health. On an individual level there is the personal benefit of problem-solving, collaboration, innovation, and starting something from scratch; I think of all of this as an invaluable experience.

► **Why do you feel that community-engaged education is beneficial for students?**

Students are introduced to a lot of information in the classroom. It is possible to use community-engaged education as a useful method to assist students in figuring out why their learning matters and to keep the bigger picture in mind. I think community-engaged education brings meaning and value to what we are teaching and what students are learning. The other fantastic element is that students get to collaborate with their peers to hopefully enrich the lives of others! This is the type of educational experience that can have a long-lasting impact on not only the students but also their professors.

"It is important to curate creative experiences"