TEACHING STATEMENT *GUILLERMO PINEDA-VILLAVICENCIO*

I approach learning & teaching from a student-centred perspective, placing the formation of a well-rounded graduate as the ultimate goal of the process. Successful teacher-student interactions rely on treating students as equals and with respect, without ignoring their differences and diversity. Today's teachers face very heterogeneous classes, with differences ranging from students' prior knowledge or cultural background to various learning styles. Teaching methods must be adjusted to cater for this diversity, with a clear emphasis upon individuals. Different students learn at different paces and from different perspectives.

In a class I aim to inspire students, and subsequently, to foster skills such as inquisitiveness, logical thinking, perseverance, dedication, team collaboration, proficiency in oral and written presentation, and interpersonal skills. Courses of mathematics provide a medium to achieve these fundamental skills for all students, not only for those doing a major or minor in the area. Apart from the well-known and well-documented evidence of the development of logical thinking and inquisitiveness, mathematics courses also develop perseverance and dedication in our students, especially for those with little or no interest in mathematics.

When designing educational tasks, I pay close attention to structure and content. Exposition and problem-solving are key constituents of my educational model. For instance, oral presentations of a topic include problems whose solutions need to be explained. In these presentations students need to present the new material, including the problem solutions, in a way that is accessible to their peers. Following this approach I have noted that students prepare well for the presentation, interact well with peers and gain in confidence in delivering talks and problem solutions. I follow the same design for written assignments and, to lesser extent, for lectures. While I try to have topics that are relevant to the students' field of study (for those not majoring in mathematics), I make sure I also give topics outside their comfort zone. This approach taps into the reality that lifelong learning, not always of familiar themes, and problem-solving are a must in today's workplace.

For me content design must place topics within relevant contexts. When teaching mathematics students, a relevant context means presenting a new topic in the context of other mathematics, illuminating a bigger picture. In the case of non-mathematicians, I motivate topics through real-world problems with which the students are familiar.

In my classes, consultations and meetings I aim to be a facilitator and not a lecturer, with emphasis on guiding, orienting and moderating the learning process rather than dictating. Students more often than not bring many fresh ideas and perspectives. These interactions provide opportunities to advance research, both discipline-based and in education. With no doubt, both the teacher and the students can learn a great deal from the teaching process.

Quality teaching and innovation. I am always open to new ideas to improve my teaching. I have designed a number of exciting courses in Cuba and Australia. For example, together with Dr Julien Ugon and Dr Nadezda Sukhorukova, I received an IBM Faculty Innovation Award for USD$10,000 for the development of the multidisciplinary course "Operations Research of Smarter Transportation". This award was part of the IBM Smarter Planet Industry Skills Innovation Awards 2010. Curriculum development is certainly something I am passionate about.

Quality teaching and innovation are often by-products of good preparation and constant professional development. Good preparation instills confidence and ensures the smooth running of educational tasks. I prepare well for my classes and have always been proactive in advancing my teaching career. For example, I regularly attend the workshops of the Australian Learning & Teaching Council on Effective Teaching, Effective Learning in the Quantitative Disciplines.

Teaching and technology. Technology is a welcome element of current teaching practices. I use technology to stimulate appreciation of newly learned concepts. When teaching Statistics I make use of IBM SPSS and Minitab, while SAGE and Mathematica are valuable tools in my Discrete Mathematics classes. I have run all my courses through *Moodle* (application for producing modular internet-based courses) and I use *WebAssign* (online homework and grading system) to create and deliver assignments.

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