

## Sample Statement of Teaching Philosophy

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I will be content if I open the minds of my students, not only to the beauty or utility of mathematics, but simply to the tremendous potential inherent in their own minds and souls, regardless of whether that potential will ultimately express itself in the sciences or the humanities, in mathematics or in music, in a biology lab or on the stage of a theatre. (Gunther, 1995. p.15)

The inherent, fundamental truth of this ten-year old statement of mine remains with me still. Mathematics teaching carries two layers of meaning – the first layer is the transmission of the actual mathematical content, but the second layer is far more important. It is the learning of a systematic way of thinking that is applicable in all of the disciplines, one that has the power to deepen student's thinking both *holistically*, in the apprehension of the wonder of its largest truths and *specifically*, in the comprehension of the rigor of its particularities. The learning of mathematical thinking, then, carries cross-disciplinary benefits and it is in this cross-disciplinary mode that I approach all of my teaching, but I situate it in the first-year courses in particular. It is here that students exude an unmistakable radiance of innocence, enthusiasm, and excitement and it is my responsibility to capture that youthful hope for success and guide them towards it.

Each September, when I walk for the first time into a classroom to meet the students of an introductory mathematics class, I am aware of a number of realities. The first is that even though all of the strangers sitting in front of me have studied mathematics for twelve years, for a large number of them this continual exposure has taught them to fear the subject. For these students, the study of mathematics has been a continual struggle with concepts poorly understood, with ideas only faintly comprehended, and with abstractions that have neither motivated them nor given them any sense of what the entire exercise was all about in the first place. I am convinced that of all subjects taught at school, mathematics is the one that most easily taught badly, and also the one in bad instruction does lasting harm to the students' intellectual development. There is no other subject, in my view, that carries with its study the same capacity to reward success and punish failure. I have often observed (and experienced personally) how the inability to perform adequately in mathematics fills one with a sense of failure and inadequacy, and how, on the other hand, success engenders feelings of power and success. Both feelings are quite out of place and certainly totally out of proportion, yet they exist.

Secondly, I am aware, as I gaze for the first time over the faces of my students, that the majority of them are in my class, not because of a love of the subject, but because of a regulation that requires them to be there. While it is true that some of them might aspire to be mathematics majors, the vast majority have other degree plans in mind: they might be in pursuit of a science degree which requires the completion of first-year calculus, they might be aiming at engineering or business or some other professional program, they might be arts majors taking a mandatory math course as part of the proscribed set of 'core courses', or, as is true for the majority of them, they might be undecided about their future.

I have come to realize that this second point is crucial, for it tells me that my objectives as an instructor and their goals as students might be diametrically opposed. A pedagogy based on fatally flawed initial assumptions can never succeed. I recall very clearly my own undergraduate experience. In my second year, sitting in the first class of an introductory course on statistics, my professor declared in his opening remarks, that unless we were interested in pursuing a PhD in statistics, he was not interested in us as students. That attitude denies the validity of the many other reasons a student might have for enrolling in a particular course. My role as a teacher is not to recruit new recruits into mathematics; we should not act like St. Peter fishing for souls, cast our introductory courses like nets into the vast population of undergraduates to haul in new disciples for our own discipline.

As I see it, my job as a professor is to be the great enabler for my students. This means that I need to get to know them, need to find out what their goals might be and need to help them recognize what they must do to move in the direction of these goals. Many fear mathematics and see it as a barrier that blocks them from realizing their dream; one of my objectives in the classroom is to teach them that they should view mathematics as one of the doors that can open unimagined opportunity in their future lives. When they ask (as so many do) why they need to learn some particular theorem or technique, I need to know the right answer to their question. The importance of learning this, I tell them, lies less in the actual content of what they are learning. Instead, what is important are the habits of clear and critical thought, the acquired habits of hard work required to master concepts that are abstract and non-intuitive, and the ability to communicate their results in a clear and concise manner.

I know that the vast majority of my students will take one or two introductory mathematics courses and then proceed to other things. These students, when they graduate from university four years later, will have forgotten almost everything they learned in my first-semester course. This reality does not bother me, for their ultimate success is sufficient proof that they have benefited from the deeper lessons that form the almost subsonic harmonies of the actual course content taught. I will be content in the knowledge that I have helped my students in opening the vast and largely untapped potential inherent in their own minds and souls.

The regular interaction with my students continues to be the high point in my professional career. They are eternally young, or so it seems to me, as I see cohort after cohort pass through the halls of Grenfell College. Their youth and exuberance, their optimism and enthusiasm, these are their gifts to the future, and I feel fortunate in having a chance to meet with them, talk with them and teach them. In the youthful enthusiasm of my early teaching days, I imagined a student as a chrysalis, pupating slowly, reaching for its potential, waiting for the day of emergence as a butterfly. I am now considerably older, and the idealism of those days is much more tempered by an understanding of the daily realities of teaching. And yet, the fundamental image remains intact. There is unlimited potential in our students. When I have been successful as a teacher, it has been at those times when I have been able to help one of my students find a way to realize this potential. And that is really all that has ever mattered to me.