

This paper was an invited essay on the characteristics of good teaching.

Zumbo, B. D. (1997). The Best Teachers I Ever Had Were ... Bill Rozeboom and Donald Zimmerman. *Teaching Business Ethics*, 1, 231-234.

THE BEST TEACHERS I EVER HAD WERE . . . BILL ROZEBOOM AND DONALD ZIMMERMAN

BRUNO D. ZUMBO, Department of Psychology and Department of Mathematics,
University of Northern British Columbia

Reflecting on the teachers I have had has been somewhat bittersweet because like most of us, what I am today as a professor is a function of both my good and my not so good teachers. As I sit writing this essay I find myself struggling to fix on *the face, the individual* whom I would consider by best and most influential teacher. The difficulty comes from the fact that at each stage of my education I had a different “best teacher.”

I started my undergraduate studies with a remarkable amount of academic self-doubt and with the conviction that education was a road to a better life than the one I saw my father and mother living (a conviction that I hold even more strongly today). My parents are immigrants to Canada from the deep south of Italy. As loving, honorable, giving and very passionate people they taught me that getting an education was “a way out”. I was not entirely sure what I was getting out of, but I knew that whatever it was, education would get me there. Later, I realized what my parents meant: I was getting out of simply earning a living . . . that is, going to work to simply make the money to live, instead of getting up in the morning to go and do something that I genuinely loved doing and had a passion for. In my first few weeks of university I saw myself as a modern version of my father; his apprenticeship taught him about wine-making, olive oil, and how to make a life in post-war Calabria, whereas mine would be filled with philosophy, mathematics, and physics.

I began my undergraduate studies at the University of Alberta fascinated by method and disciplined inquiry. I had this hunger to learn about how the various disciplines in the university went about their business of generating knowledge. This fascination with the process of inquiry has stayed with me in one form or another to this day. I can recall an event in my second year of university that changed my course of studies entirely. I recall asking one of my physics professors about an issue of scaling of measurement in experimental physics. He responded, in a rather dismissive manner, that these sorts of questions were not the province of modern physics and that if I was insistent on asking such a question that I should go make an appointment with Bill Rozeboom – one of those Philosophers

Teaching Business Ethics 1: 231–234, 1997.

© 1997 Kluwer Academic Publishers. Printed in the Netherlands.

of Science/Psychologists across campus who still wasted their time on such questions. I quickly ran to the library and looked up Rozeboom's name in the index and found a paper by him in the journal *Synthese* on precisely the topic I was interested in. The paper was entitled "Scaling Theory and the Nature of Measurement." I left my initial read of this paper with two clear messages: (a) this problem was subtler yet wider-reaching than I had imagined, and (b) I was clearly intellectually unprepared to read Rozeboom's work. I went to Rozeboom's office expecting to find an intimidating individual. To that point I had only read his one article and my whole image of him was formed by it. Instead, I found an utterly charming man who appeared surprised to find that anyone had read this work, let alone an undergraduate. Bill not only entertained my questions but sensed my enthusiasm. To this day I cannot imagine what we could have talked about, but I left his office with the sense that I had found "the way out". The next day I changed my major to Psychology. To this day, I believe that Rozeboom does not know the impact he has had on me (nor does the unnamed professor of physics). In taking Rozeboom's courses, listening to him speak, and struggling to understand his writings I found myself being pushed to my intellectual limits. I found myself choosing my courses so that I could understand what I was reading or hearing from Bill. Beyond the few classes I took from him, most of my interactions with Bill involved my dropping by his office to ask a few questions or upon seeing me in the hallway he would invite me to his office to be led through some recent result he had just discovered. Again, I cannot imagine what he got from our conversations but I left each interaction intellectually on fire, if not a bit overwhelmed at times.

All in all my undergraduate years were characterized by bouts of almost paralyzing insecurity and self-doubt about my abilities. Besides Rozeboom, a small core of professors who taught me undergraduate and graduate courses gave me the sense that I was a member of an intellectual community and that "I had what it takes". This core of professors included Edgar Howarth, Kellogg Wilson, and Steve Hunka. From each I learned a wealth of knowledge and history about individual differences, psychometrics, philosophy of science, statistical methods and mathematical psychology – and to each I owe a huge debt of gratitude. Most importantly, however, from each of them I acquired my passion for research and inquiry.

My passion for research and inquiry was at an all time high when I arrived at Carleton University in Ottawa to study with Donald Zimmerman. Donald was exactly what I needed. Although I was infused with some self-confidence by the core group of professors at the University of Alberta,

I still suffered serious bouts of self-doubt even to the extent that I had passed up an offer to study at the University of Chicago (on scholarship and with some of the most influential individuals in methodology) because I was certain that I would fail miserably. The thought of working with Zimmerman was as intimidating to me as the thought of working with any of the individuals at Chicago, but there was (and is) something about him that made me feel at ease. This sense of ease somehow came through in a letter he wrote to me in response to an initial inquiry I had made of his then research interests.

It is important to note that although Donald's letter was supportive and put me at ease, my same innocent inquiring letter put off another Canadian professor because he somehow thought I had no sense of protocol and was interviewing *him* as a potential advisor (which clearly wasn't my intention; I just wanted to know the sort of research he was currently engaging in). This same professor was still active when I started my academic career, and to my absolute horror and embarrassment, announced to a group of others how I had *interviewed him* when I was applying to go to graduate school. I suppose that the ability to make others feel small doesn't just apply to the professor-student relationship. To this day when a student writes to me about graduate school (or, for that matter, any other correspondence with students) I will go to great lengths to make sure that I let them know that I appreciate their letter.

Working with Donald was a wonderful experience. It was as if I had come across the one individual with whom I shared many research interests. With Donald I had an apprenticeship in being a scholar. Donald was (and is) an amazing pedagogue. I have memories of countless hours (usually entire mornings) in his office working away on a problem or having Donald explain to me some subtle abstract psychometric point (at least they were subtle to me). My interests meshed so well with Donald's that within three months of my arrival at Carleton, Donald and I had submitted our first manuscript for publication. From Donald I learned about the pursuit of truth, the application of rigorous inquiry, and the wonderful fruits that can be borne of a sound mathematical analysis, model, or axiomatic layout. On an analytical front I learned about his use of operator algebras in measurement theory and about his rigorous analysis of the axioms and assumptions of test theory. Finally, I also learned about the scientific power of using Monte Carlo (experimental mathematics) to advance psychometrics and statistical science.

It was during my graduate work with Donald that I realized what, for me, made a great teacher: it was someone who interacted with you, allowed you to fearlessly ask questions, fed your appetite for knowledge yet kept

you hungry for more, and stretched your mind. There are many individuals whom I would consider to be good teachers but the two I would consider to be great teachers are Bill Rozeboom and Donald Zimmerman. Bill and Donald showed me that great teaching was not only (nor necessarily) in the classroom but rather a way of living. Both of them helped me find my “way out”.

University of Northern British Columbia
Prince George, B.C.
Canada
V2N 4Z9
E-mail: zumbob@unbc.edu

BRUNO D. ZUMBO