

BEVERLY SIMMONS

Hardly a day passes that I don't think gratefully and fondly of my high school math teacher, Irwin Hoffman. Every time I sit down at my computer, I credit him for giving me the skills to figure out what I need to do with it and the confidence that I can do it.

Irwin empowered me and his other students by giving us the responsibility to teach each other and to teach him (although I now realize he misrepresented his own knowledge, to give us the satisfaction of teaching our teacher). I remember one of his geometry quizzes, where we had to design a city park with an elliptical lake and a parabolic swing set (or something like that). Such imaginative and creative exams forced us to use the mathematical principles that we were studying, rather than just do proofs or solve equations.

Irwin seemed oblivious to the fact that I was a girl interested in math. Boys in my class occasionally teased me, but it was never an issue with Irwin. Nor was he aware of race. He told me about a call from a former student who said, "Don't you remember that I was the only black student in the class?" Irwin answered that he didn't remember that the student was black.

He was visionary in seeing that computers were the way of the future. During my senior year, I was one of several students (including Bob Jardine and John Shott) that Irwin sent to computer classes at Denver University. Our task was to learn everything (using punch tape, then punch cards) and then come back to teach him and our peers. Whereas another teacher might tell about the activities and accomplishments of his students, Irwin put his students in the rôles of ambassador, public speaker, teacher, and tutor. He once had me give a presentation to the PTA about flow charts. Instead of using the process to solve a mathematical problem, I made scrambled eggs (Step 1. Crack an egg. Step 2. Look to see if there's blood in the yolk. If yes, discard and go back to Step 1. If not, go on to Step 3...). He knew that the mothers in the audience would understand the concept and its connection to everything they did.

When I went off to Stanford, it was with every intention of training to be a high school math teacher, just like Irwin. However, the more theoretical the math got, the less I understood it. In my junior year, I turned my attention to early music, staying at Stanford to earn Master's and Doctor of Musical Arts degrees. However, the mathematical aspects of music — like harmonic analysis and historical notation — still hold a special appeal. And I was an early adapter of the home computer as a tool for graphic design, music editing, database management, correspondence, and everything else.

I was fortunate to get hired as a university professor, but found that academics was not a good fit for me. In fact, I've had a varied career: classical radio broadcaster, artist representative, arts administrator, workshop director, book editor and designer, choral conductor, and singer. My music professor husband (whom I met in graduate school) and I raised two children at whom I continue to marvel: our son works in high energy particle physics and our daughter is a radio producer.

Irwin and I didn't really stay in touch after I graduated in 1967, although I would run into him at Green Gables Country Club, when I'd come back to Denver to visit my parents. He pretended to be angry that I hadn't completed my math major in college, and claimed I was one of his best students. But, being the mother of a truly gifted mathematician/physicist, I know that I was never

a math “whiz,” just an enthusiastic student. However, I especially enjoyed hearing Irwin’s accounts of how he cut through bureaucratic red tape to enable his students to succeed. I encouraged him to write a memoir, on the order of *Surely You’re Joking, Mr. Feynmann*.

At the fortieth reunion of the Class of 1966, several of Irwin’s former students took him out to lunch. (As the first time that Irwin taught AP Math, he’d insisted they meet with him every Sunday, to make sure they got through the curriculum. Needless to say, they bonded with him and each other; also they’d all done very well on the AP exam. I’d known people in that class, through my own math courses as well as through my brother, Seymour.)

During lunch, they’d been intrigued by Irwin’s stories and decided to document them. Dick Snyder told me that Tom Davis and Joyce Kobayashi had begun to interview Irwin, with the plan of publishing something that would be useful to current teachers of mathematics. Irwin was eager to have others know about his methods and accomplishments, not so much for his own glory, but rather so that others could start where he left off and accomplish even more.

As my parents’ health declined, I found myself coming to Denver more and more often. After both Tom and Joyce withdrew from the “Hoffy Project,” I continued the effort. Whenever I could, I’d meet with Irwin, listen to his stories, find out more about his methods, his philosophies, his many successful students. I obtained a collection of his papers, newspaper clippings, and other documents, which I scanned and catalogued. It was clear that many of Irwin’s former students held him in the same high regard as I, whether they’d gone into mathematics, medicine, information technology, or tennis or long-distance running, even classical music.

Irwin Hoffman continues to amuse and amaze me with his energy, imagination, and devotion to teaching, despite health and family concerns. A few summers ago, he told me about tutoring a little girl who had had trouble with arithmetic in first grade, and whose mother wanted her to start second grade with more confidence. In teaching her the trick of multiplying by 11, he explained that she had to hold one number in her right hand and the other in her left and touch her nose to add them together. She started using her fingers to add and he exclaimed, “No! You’ll drop them.” So she learned to add in her head! On another occasion, he asked me for clarification about Roman numerals, whether to go left-to-right or right-to-left. I explained how I understood them. In turn, he told his student, a Nigerian would-be nurse, “Imagine you’re skiing. As long as you’re going downhill (i.e., the numbers are getting smaller), you add. But when you hit a mogul (a higher number), you subtract.” She’ll never forget how to figure out Roman numerals, because he gave her a visceral understanding.

Recently, Irwin confessed to me that, while teaching high school, he was terrified. When I asked why, he said that he had been entrusted with all these young brains, and he was afraid that he wouldn’t teach them well. Maybe that’s why he was such a great teacher.

Beverly Simmons, D.M.A.
3285 Enderby Road
Shaker Heights, OH 44120
bevsimmons@gmail.com

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