

Advice from an aging warrior: What I didn't learn in graduate school.

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Good afternoon and congratulations to the parents and grandparents, siblings, aunts and uncles, friends, mentors and teachers of our brilliant graduating students. You have played pivotal roles in making this special and happy day a reality. All of us at the University understand the invaluable contributions provided by the immediate and extended families and friends of our students. And may I be amongst the first to acknowledge the rich accomplishments of our ambitious and hard working graduate students and congratulate each of them on achieving an intellectual milestone that will catalyze a lifetime of personal and professional growth. In these uncertain times, when retirement plans can evaporate in a matter of days, and the stock market fluctuates like the price of gasoline, you have made a wise investment, one that will never lose value and has the potential to offer you unlimited career leverage.

Twenty-six years ago I sat in cap and gown in an audience much like this one trying to absorb a graduation address. I must confess that I can no longer remember who delivered that speech or what the topic was. Today I

hope to leave you with four simple thoughts distilled from my experiences in what we euphemistically call the “Real World.”

What I recall most vividly about my wonderful graduation day was the palpable sense of satisfaction and pride on the part of my parents and my grandfather. A graduate degree is special. It represents an accomplishment attained by a small fraction of society. The degree you will receive recognizes an advanced level of scholarship and expertise and your graduate experience has prepared you to provide technical and intellectual leadership to your country, and the international community. The world is much in need of your skills, especially you economists! However, your journey has only just begun.

The first issue you will have to deal with after receiving your degree (aside from actually completing it for those of you who are a bit early) is adjusting to your elevated status. For me this meant grappling with a family that had never dealt with the meaning of an advanced degree. I was the first person in my family, and that means anyone I knew who was remotely related to me, to earn a doctoral degree. Without a doubt it was my grandfather who held out the greatest hope that someday I would become a doctor. After fighting in the Alps in World War I, this diminutive Italian pursued his dreams of opportunity and wealth by immigrating to New York

City, where he married and raised a family during the roaring twenties and tumultuous Great Depression. I had the good fortune of attending graduate school near his home, then in Boston, and on many a Friday night I would fetch a fresh octopus and the cheapest wine I could find in the North End of Boston and spend the evening utterly mesmerized by his genuine life stories. I adored this man. Then my younger sister, who was living in Palo Alto, California, brought home a new fiancé, a cardiologist from Stanford. I was present when he was introduced to my grandfather who shook his hand and proclaimed: “Finally a real doctor in the family.” Get used to your stature.

Graduate school was perhaps the most exciting time of my life, and I hope that has been true for the candidates here today. Graduate students have an opportunity to delve into subject matter of their choice, including coursework that augments other scholarly activities, and to pursue research that frequently culminates in a thesis and other publications. You have acquired a wealth of knowledge and matured intellectually as graduate students. Nevertheless you will be challenged in various ways in the coming years and success will be contingent on additional growth and adaptation.

I started my professional career at Bell Laboratories, in Murray Hill, New Jersey, at the time the greatest research laboratory in the world. My first day was the scariest one I have ever worked. After a one hour

introduction to the lab by my new department head, I was given a booklet with the title “Learning the Ropes.” On the cover was a picture of a noose. What I learned that first day was that once a year management ranked all one thousand or so Ph.D. scientists and engineers, including several Nobel Laureates, top to bottom, on the basis of publications and overall scientific impact. Written technical memoranda were the currency for assessment and these were read and evaluated by everybody. If you could not write well you got flushed. I no longer had an advisor, and my colleagues were the competition.

Among the graduate warrior skills I would rank writing in second place, yes higher than solving differential equations or fluency in Medieval English Literature and well above knowledge of the Krebs cycle. Many graduate students in my college, the Institute of Technology, develop writing skills late in their graduate careers. Far too many naively assume that completion of their thesis is accompanied by an absolution from writing. As an entering graduate student I was poorly prepared as a writer, and the first manuscript I generated was returned by my advisor covered in red ink. These were the days before spell-checkers, when you didn’t even know that you couldn’t spell. After penning a two-hundred-and-sixty-five page thesis I thought I had rectified the problem.

Regardless of your field of study all of you will be evaluated and judged on your writing skills throughout your careers. Some of you already are terrific writers. Simple thought number one: Embrace writing challenges early in your careers.

In my judgment the most critical professional skill for an emerging leader is speaking. Writing is a solitary and deliberate exercise, speaking is spontaneous and irreversible. Part of the excitement of live talks is live mistakes. An oral presentation to a group of people, large or small, allows you to influence many individuals simultaneously. People enjoy listening to an engaging speaker and they tend to remember the gist of a presentation more than the details. Powerful speaking holds the greatest potential to advance your career and place you in positions of importance, more so than any other professional skill. We all witnessed the greatest demonstration of this point in our lifetimes during the recent presidential election. President-elect Barack Obama transformed the political landscape through brilliant, decisive and nearly flawless oratory. Most graduate students have only limited training in public speaking. Simple thought number two: Take every opportunity available to refine your oratory skills.

At various points in the next few years your profession will present you with ethical challenges. While certain disciplines, such as engineering,

have established and well-defined codes of ethics most ethical transgressions involve activities not captured in graduate training. I can trace my own sensitivity towards ethical behavior to my father. Born into poverty, my dad grew up in Brooklyn hungry poor. After serving in World War II he attended college through the GI bill, that brilliant tool invented to educate soldiers at just the moment when the country was poised to grow into the most powerful nation on earth. As an electrical engineer he helped wire up the nation. One of my poignant memories as a young adult is my father advising me against becoming an engineer: “You will be held responsible for your errors; doctors bury their mistakes.” All kidding aside, my father had developed high ethical standards, incomprehensible to me as a teenager. As I finished graduate school he offered me some very sound advice: “Always keep track of the small issues, especially financial ones, and the large problems will take care of them selves.” I raise this topic because I believe it simply cannot be taught in school. You will develop your personal standards when faced with the opportunity to cheat or bend the rules. And it will start small. My advice is to identify someone with whom you can consult. Parents and grandparents often bring just the right experience and perspective. My third simple recommendation was best summed up by Mark Twain: “Always do right. This will gratify some people and astonish the rest.”

Finally, the last weapon: Instincts. Your professional career will present you with opportunities that may be simultaneously attractive and intimidating. You must rely on your instincts to make the best choices. My most improbable career development actually occurred before I entered graduate school. In my senior year of undergraduate studies in mathematics I had the good fortune of meeting a true mathematician, which quickly convinced me to pursue a different field. The one I was most familiar with, truck driving, was a convenient choice. I had been driving a truck for about five years, first in the South Bronx in New York City, then for North American Van Lines, and during the last three years in college for a rubbish company in Boston. The money was good and I was able to pay my way completely through college. With a B.S. in Mathematics I became one of the highest profile rubbish men in New England. As the summer of 1976 came to a close my heart sank at the prospect of eking out a career in sanitation engineering. However, the job had one great benefit: I could park my truck anywhere. One day while in Cambridge I stopped on Ames Street near the Charles River with the intention of investigating places I might go to graduate school. The first building I walked into was receptive and three months later I matriculated as a chemical engineer at MIT. At the time I had no idea what I was doing. I was operating on pure instincts.

In closing, I have touched on four skills that in my experience will continue to play an important role in your development as a professional: Speaking, writing, ethics, and instincts. As you enter your careers I urge you to aim high and don't be afraid to make a few mistakes.

Congratulations on your magnificent accomplishment.