

“SHORT STORIES”: REFLECTIONS ON TOM SHORT’S IMPACT ON STATISTICS EDUCATION

Tom Short (1963–2018) is the only person to have served as editor of both the *Journal of Statistics Education* (from 2001–2003) and the *Statistics Education Research Journal* (from 2006–2009). Following Tom’s untimely death in November of 2018, Jeff Witmer and Jennifer Kaplan proposed that the journals jointly publish a tribute, consisting of reflection pieces from statistics educators who knew, worked with, and were influenced by Tom. Larry Lesser suggested the ideal name for this collection of “Short Stories,” and Allan Rossman offered to edit the tributes and write this introduction.

Tom earned a B.S. in Mathematics from John Carroll University in 1986 and an M.S. and Ph.D. in Statistics from Carnegie Mellon University in 1989 and 1991, respectively. He served as a faculty member and earned tenure at Villanova University, Indiana University of Pennsylvania, and his alma mater John Carroll University. He joined the faculty at West Chester University prior to his passing.

Tom’s teaching responsibilities focused on undergraduate students at all levels and on Master’s degree students in applied statistics. His scholarship consisted of extensive statistical consulting as well as projects in statistics education. Tom also co-authored a series of textbooks for introductory statistics with Roxy Peck.

Tom conducted many professional development workshops for teachers and gave many conference presentations about teaching statistics. This aspect of his work is notable for its extensive breadth. Tom presented for teachers and students at K-5, middle school, high school, undergraduate, and Master’s levels.

Tom was very active in a variety of leadership roles in the American Statistical Association (ASA). He served on the ASA’s Board of Directors and on the Governing Boards of both the Council of Sections and Council of Chapters. He also served in various capacities for the Section on Statistical Education and the Advisory Committee on Teacher Enhancement. Tom also participated as ASA’s representative for the International Science and Engineering Fair, and he contributed actively to the work of ASA chapters in Cleveland, Philadelphia, and Pittsburgh.

Tom played an important role in the creation of the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) and served that organization as Associate Director for Professional Development.

Tom contributed in multiple ways to the Advanced Placement (AP) program in Statistics. He served on the AP Statistics Test Development Committee. He also participated in the annual AP Statistics Reading, serving in the roles of reader, table leader, question leader, and exam leader.

Tom’s recognitions included being selected as an ASA Fellow in 2004 and receiving the Mu Sigma Rho Statistics Education Award in 2005 and the USCOTS Lifetime Achievement Award (posthumously) in 2019.

The above is merely a brief account of Tom’s curriculum vita. The tributes that follow attest to the impact, both professional and personal, that Tom had on statistics educators.

Charlie Ashley, Villanova University

I met Tom Short in the early 1990s when he came to Villanova to teach statistics. I was already teaching there. We hit it off immediately. We are both from Ohio and in some sense spoke the same Midwest language. I am a mathematician who taught statistics quite frequently and yet knew only what was in my textbook. I had never taken a course in the topic. Tom raised my awareness immensely on the subject and did it in a kind way. We had good-natured arguments about such things as alpha levels and p -values, but Tom was the first person to really explain this wonderful field to me. I always wished I was as passionate about math as Tom was about statistics.

Even after Tom left Villanova we stayed in contact. He was such a good friend to me. When he returned to the Philadelphia area, I got together with Tom and his lovely wife Darlene for dinners,

concerts, and baseball games. His passing was quite a blow for me. I wish I had spoken to him more directly about how much his friendship meant to me. I think about Tom almost every day.

Thomas Bradstreet, Bristol-Myers Squibb

One of Tom Short's most impressive qualities was his ability to advise and mentor anyone ... anytime ... anywhere, with humility that knew no bounds. I will be forever grateful to Tom for his collaboration and inclusion on several statistical education initiatives. His contributions were invaluable. I benefited both professionally and personally. Tom was a joy to collaborate and converse with.

Tom's outreach efforts further strengthened the ever-evolving relationship between academia and industry. Together we made some notable and timely contributions. From a series of JSM poster presentations, we constructed (with graduate students) a website containing favorite datasets which are useful for teaching and statistical research. Tom updated the website as new datasets became available, and the website remained publicly accessible following him from its first home at Villanova University in 1997 to subsequent academic institutions.

We also developed (with Mike Nessly) and offered an example-driven short course to Merck Research Labs personnel on effective displays of data for communication, decision-making, and ACMS. These efforts resulted in our coauthoring a paper in *Pharmaceutical Statistics* (Teachers Corner), a JSM presentation, two JSM posters, and two JSM *Proceedings* papers.

At Tom's invitation, I was able to contribute as an industry advisor and participant in four SEQual workshops for K-12 teachers, as a speaker at a STATS Workshop for mathematics teachers on teaching introductory statistics, as a judge for the PA Statistics Poster Competition, and as a referee for submissions to *JSE*.

On a personal note, I (Tom B, as he referred to me) was lucky enough to consider Tom S (as I referred to him) a friend. I so enjoyed hearing his stories about his professional and personal exploits, and also about his family. It was uncanny how bad luck seemed to follow Tom S around, particularly at his homes. He once told me that the family car fell through the floor in the garage. Unknown to Tom S, there was a hollow underneath the garage floor. When Tom S showed me the picture, all we both could do was laugh out loud (Tom S was already past the screaming stage)! Who would have guessed that this could happen—a garage floor with no support—go figure!

Besides his boundless humility, another endearing characteristic that I cherished was Tom S's snappy wit and dry sense of humor. We would be thinking through a particular teaching strategy, or just catching up on what was new, and Tom S would ever-so-gently deliver a verbal delicacy with several levels of intellectual complexity mixed with not-so-thinly-veiled innuendo. Then he would wait patiently for the rest of us to catch up. All the while, we would see that boyish smirk of a grin planted on his face while he internally proclaimed to himself that he had just "made a funny." Sometimes I think he was timing us. We will all miss that smirk.

Ruth Carver, Germantown Academy

I have had the good fortune of knowing Tom Short as a teacher, mentor, colleague, and friend over the past 20+ years. I have always been drawn to people who are passionate about what they do. I was first drawn into Tom's *wonderful world of statistics* in the late 1990s when I attended the SEQual program that he ran at Villanova for K-12 teachers. I loved everything about Tom's teaching style—he was funny, engaging, incredibly good at explaining even the most abstract concepts, and he never wasted a moment of your time. Tom made teaching statistics seem like the coolest and most fun thing you could do, so when the opportunity to teach AP Statistics came up in 1998, I jumped at the chance.

Tom then switched his role from teacher to mentor. Tom was incredibly gracious and patient and answered all my many questions as I muddled through my first few years of teaching statistics. When you have taught math for a long time and are used to knowing the answers, teaching statistics can be very intimidating. I had so many questions, and in hindsight he probably should have rolled his eyes at some of them, but he never made me feel like my questions were dumb or that I was not a good teacher.

With all the resources available now for teaching AP Statistics, it's hard to imagine a time when that support was not there. In 2000, Janice Ricks and I were discussing starting a statistics group for

teachers in the area. We asked Tom if he would help us, and that was the beginning of PASTA (Philadelphia Area Statistics Teachers Association), which is still going strong. Tom was instrumental in the success of PASTA. In addition to making presentations at meetings, he organized a Statistics Career Day and got teachers involved in the ASA poster contest and competition. He was also generous with his time, visiting schools to give presentations on careers in statistics.

Tom was always looking to groom people for leadership positions, and in the late 1990s he nominated me for a position on the local math board, ATMOPAV (Association of Teachers of Mathematics of Philadelphia Area and Vicinity) which he was serving on. Our relationship morphed into colleagues, and we worked on the planning of several conferences together.

I was able to remain in contact with Tom after he left Philadelphia as a reader and then table leader for the AP Statistics exam, working directly with him as my question leader for several years. I became a member of the AP Statistics Test Development Committee which Tom was serving on at the time. Although he never said it, I believe that he was instrumental in my being tapped for this invaluable professional development experience.

It was during these years that I really got to know Tom as a friend. The committee spends several long weekends each year working on the AP exam, and it was during those times that I really came to appreciate Tom's great sense of humor. I still laugh when I remember the meeting in Atlanta that Jeff Haberstroh from ETS was unable to attend. Tom had Luis Saldivia secretly take a bobble-head of Jeff to the committee meeting. Tom then dutifully chronicled Jeff-the-bobble-head's weekend in Atlanta, including rescuing him when we were evacuated from the hotel as fire alarms went off. I also recall fondly how Tom would distract me at meetings when we were working on question items by e-mailing me the latest haiku he had composed. Tom knew just the right amount of levity that was necessary to de-stress the group so that we could all do our best work.

I was ecstatic in 2016 when Tom e-mailed me to say that he had taken a position at West Chester University. He jumped right back into PASTA, presenting workshops and coordinating the first AP Statistics Review Day at Villanova University last April. He missed our November 13th meeting, which was so out of character for him. It was a hectic time and I regret not having followed up with him. I hope Tom knew how much I admired, respected, and genuinely liked him. I wish I had the chance to tell him again. My heart breaks for Tom's family and his many friends and colleagues. You are all in my thoughts and prayers.

Patrick Chen, John Carroll University

I often had questions in teaching, in QA courses, and in core courses in statistics, which Tom always answered carefully and thoughtfully. He showed me his genuine love of statistics and teaching, and care of his students. Sometimes when I passed by his classroom, I heard that he played music for his class. I loved his humor and the many toys in his office. Tom seemed to me to be a person so full of life. It is a shock for me to lose such a great colleague.

Jaki Fesq, Educational Testing Service (Retired)

I first met Tom at the 2011 AP Statistics Reading in Daytona Beach. That was the first Reading where my role was as an ETS test developer and not as reader. I soon learned that Tom was a big part of all phases of the exam, from creation to administration to reading. Over the next seven years, he became my go-to guy for many of the external reviews that items and exams go through. I would email him asking if he could review something like 40 items in the next two weeks (there was always some unreasonable deadline), and he would always say yes! At the Readings, he not only served as an exam leader, but he brought his sons along to work with moving the exam boxes among the reading rooms. You could say the Short Family kept the Reading running! In addition to his work on AP, Tom worked as an ETS outside item writer of stat problems for other K-12 programs that were trying to implement the Common Core Standards in statistics. He was just the nicest guy and someone I could count on to get the job done, and done well. I have a hard time believing he is gone.

Christine Franklin, University of Georgia and American Statistical Association

I have often shared that throughout my career, I have landed in special places affording me amazing friends, colleagues, and mentors. About twenty years ago, I met Tom Short, who became a special colleague and who over the years was a dear friend to my family. I was fortunate to serve with Tom on national committees, within the AP Statistics community, and on editorial teams for *JSE* and *SERJ*. He was a mentor to all—students, colleagues, authors, friends, and family—wanting everyone to be successful. He was the colleague who you could always turn to for assistance, and he made it happen but, at the same time, he wanted no acknowledgement.

But it was another side of Tom that I cherished personally—his love of sports, especially baseball. It became a tradition through the years that when we were attending conferences or AP Statistics Readings, Tom would contact me about attending one or more games if a baseball team was in town. Of course, Tom and others who attended had to appease me by arriving early enough to set up my scorebook. I am obsessive about keeping an accurate scorebook. Tom knew this.

One year at the AP Reading in Louisville, a group of folks drove to Cincinnati for a game. Tom and a few others went earlier than me. I gave Tom and Josh Tabor my book to start scoring. When I arrived, I found that Tom, with Josh's help, had diligently scored the first few innings of the game with the AP Statistics scoring system of E,P, and I—essentially correct, partially correct, incorrect. I kept asking them—what kind of rubric did you use to score the plays E, P, or I? You can imagine my shock at this unauthentic baseball scoring being used. But that was Tom, smiling and chuckling as he handled me back my book. I treasure the scoring of that game.

In following years, Tom would often ask me if he could help score some of the games we attended, and he was meticulous—always using official baseball scoring. People often ask: why score a game? Yes, there is the statistical analysis, but more importantly it is memories, and you can always go back and relive everything about the game. Tom understood this. I will treasure these scorebooks more than ever knowing that Tom will always be part of these books and the story they tell.

Thank you, Tom, for enriching my life and everyone you touched. Our world was better off with you here among us—we are going to always have a void in our lives without you. Using a 100% prediction level, I predict Tom wants us to continue his passion for the importance of statistics education, his love of sports, his love of family and friends, and his love of humanity. If you are reading this, Tom, I am currently developing a rubric to score with E, P, and I's, to be named the "Tom Short AP Baseball Scoring Rubric."

Rob Gould, UCLA

Many years ago, I was lucky enough to co-organize a workshop for high school teachers with Tom and Roxy Peck and some others in a lovely spot in Morro Bay, California. In his presentation, Tom repeatedly talked about a "statistics party." He would tell us: "So you've been invited to a statistics party, and someone asks you about p-values? Here's something you can say." Although I can't remember precisely what he advised us to say, I do remember it was funny and goofy. In my mind, this statistics party was a convivial gathering of people who loved learning and statistics and were gleefully supporting each other in learning more.

At that same workshop, Tom and I learned that we had intersecting musical tastes in a couple of areas. Ever after, I would occasionally, out of the blue, receive a link from Tom for a new song or a new band he was listening to, and I would click on the link and enjoy.

I'll remember Tom as someone who made strong connections with others, drawing them into his fantastic, non-stop statistics party.

Jeff Haberstroh, Educational Testing Service (Retired)

I came to know Tom Short and appreciate his work through his long association with and service to Advanced Placement (AP) Statistics, both as a member of the AP Statistics Test Development Committee and as a table leader and reader with the AP Statistics Readings.

Tom's expertise and contributions to AP were particularly noteworthy, because his initial involvement dated to a time when the statistics examinations and readings were undergoing a period of rapid growth. At that time, with each new academic year, significant numbers of additional high school students were participating in AP Statistics, resulting in substantial increases in annual exam volume and prompting a need for the development of even more new exam forms and therefore more table leaders and readers to score the exams. As such, the project staff at Educational Testing Service who were responsible for the development and scoring of the exams especially relied on the breadth and depth of knowledge of professionals like Tom to assist in maintaining the high levels of quality and innovation that have been hallmarks of AP Statistics since its inception.

During his tenure as a member of the Test Development Committee, Tom generously contributed his knowledge and expertise to the extensive development and review of the content of the exams, along with adding valuable perspectives during the process that further enhanced the final version of each exam. And, as a longtime reader and table leader at the AP Readings, Tom worked tirelessly to provide strong professional leadership to groups of readers to help ensure that high scoring standards were consistently applied to thousands of AP exams.

In the larger community of AP Statistics professionals, Tom exemplified some of the best that members of that community consistently offer to its students. His readiness and willingness to take on a wide variety of assignments in his capacities as a member of the AP Test Development Committee and as a part of the table leader teams at the AP Readings attested to his strong dedication to the students of AP and his broad reach and impact in the field of statistics education.

I am very grateful for the opportunity to have known and worked with Tom, and for his many contributions to AP Statistics.

Brad Hartlaub, Kenyon College

Tom was a good friend who I met very early in my career. Since we were both getting started as young statisticians, we often shared our experiences over ice cream or meals at conferences and baseball games. Tom was always supportive, and he had a remarkable way of making bad experiences seem not so bad. His sense of humor is what I miss the most. Tom was always joking and having a good time.

As I struggled with what to put in this story, I looked back at my photos and notes from numerous meetings. Believe it or not, I have e-mail messages from all four institutions where Tom held a faculty appointment. The most recent message talks about rooming together.

The oldest message is from the Villanova account while he was the editor of *JSE*. He helped a group of us fine-tune an article describing guidelines for statistics minors and concentrations. As usual, his insightful comments led to an improved article.

Our e-mail exchanges from his Indiana University of Pennsylvania account brought a huge smile to my face. By this time I had worked with Tom for many years. We worked together on projects and committees for the American Statistical Association, CAUSE, and AP Statistics. We teamed up to help plan the program for the 1999 Joint Statistical Meetings. We wrote and critiqued exam questions and rubrics for AP Statistics, and we shared leadership responsibilities at AP Readings.

One of the e-mail messages contained an inquiry from Tom about the status of his invitation to the Reading. He was setting up his summer schedule so he sent a message to see if I was going to invite him to the Reading. I said ABSOLUTELY. He sent a message the next day saying that his invitation arrived in the mail. Rather than asking me how I got the invitation to him so quickly, he said that he was "psychically linked to the AP mailing schedule!" As usual, he signed the e-mail message, "Statistically yours, Tom Short."

Another message indicates Tom was a dedicated educator who was willing and eager to share his talents to help other teachers. One of our colleagues, a high school teacher from Texas, asked us what we knew about the Q-statistic. After a little digging, Tom said that "something did not smell right," because the degrees of freedom did not match what he expected. Rather than letting it go, Tom asked for more information about the context, and the conversation continued at our next face-to-face meeting.

Developing rubrics, training new readers, and grading exams is not a high priority for many college and university faculty members during the summer. However, Tom was one of the leaders who made the AP Readings one of the most rewarding professional activities that I have participated in. Tom took the knowledge he gained at the Readings back to his institutions and shared it with local teachers. The

saved e-mail messages from his John Carroll University account include invitations to attend “AP Stats Saturday” and other sessions with AP teachers. I will never forget walking into the auditorium at JCU and seeing approximately 200 students on a Saturday morning. They were eager to hear what Tom had organized for them about the upcoming exam.

As expected, the fantastic growth of the AP Statistics Program was accompanied by a few challenges. At times I took some of those challenges too personally, and the stress became apparent. When I was struggling, Tom always tried to make me laugh. I wish we would have been able to make him laugh more. Talking to your friends in good times, and bad, is extremely important.

I cannot recount all of my experiences with Tom in this story, but I could go on for pages about the impact of Tom’s work on our discipline. The final paragraph from my 2005 review letter for Tom still summarizes my feelings:

He is one of the few statisticians I have met who can work with educators and students from the elementary level through the graduate level. He is also one of those special individuals who makes the AP Reading such a wonderful professional development opportunity. I am glad that he has joined our team of AP Statistics readers, and I am confident that he will continue to make valuable contributions to our profession. He is an extraordinary statistician, and it has been a pleasure working with him over the years.

Tom earned my highest ranking.

John Holcomb, Cleveland State University

My favorite memories of Tom are from presenting at statistical workshops together. There was a time in the early 2000s when we took the “Tom and John Show” on the road and tried to provide teachers with datasets and strategies for teaching introductory statistics. When Tom was presenting, I used to sit in the back of the room and just watch how masterfully he wove content and humor. He had me cracking up all the time. His delivery was so deadpan, though, that some of the teachers in the workshops didn’t know whether he was joking or not. I know Tom’s students sometimes didn’t quite know what to make of him. And it wasn’t just his humor—he had great examples as well. He knew how to lure students and teachers in because of an interesting problem or context where data analysis was a way to help.

Tom was the consummate scholarly teacher. I think it is so fortunate for all of us that Tom found his calling. I think of him as a great example of what can be done when people find the right role for their talents. He knew his limitations as well. He often said “no” to opportunities that were not right for him.

Tom was such a generous colleague who welcomed people into statistics education. He might be my first professional colleague who became a friend. Through his connections and encouragement, I made many more friends in the statistical world. That was Tom—he turned colleagues into friends wherever he went.

Tom was a constant advocate for statistics. He dedicated many hours to serving as a resource for high school statistics teachers, both in Pennsylvania and Ohio. He also volunteered many hours in support of the American Statistical Association (ASA). We were lucky to have him as an officer in the Cleveland Chapter of ASA, but he also was very active on the national stage—even serving on the national ASA’s board of directors.

Tom Short touched many lives. I don’t know how he did it. He was never seeking the spotlight. He would just make that sly comment and make us all stop and smile. I wish I could see that smile one more time.

Daniel Joyce, Villanova University

In the early 1990s, Tom Short was my colleague at Villanova University. I was in Computing, and Tom, of course, was in Statistics. At that time, both disciplines were part of the Mathematical Sciences Department. We first became friends because of a mutual interest in baseball and baseball statistics. We started a fantasy baseball league—the MSBL (Mathematical Sciences Baseball League)—around

1993. The league still exists and includes, among its eight members, statisticians from across the country. Tom's team was the Markov Fielders. Cute, right?

In 1992 Tom and I worked together on a modest NSF grant proposal titled "A Multidisciplinary 'Statistics for Experimenters' Course Sequence." Tom was the Principal Investigator. Consider this excerpt from the abstract: "the first semester ... unlike existing courses, the emphasis will be placed on the production and analysis of data rather than on mathematical theory." The proposal was well-received even though we did not get the grant. However, I think it is safe to say that we were on the right track.

Tom's kids and my kids are about the same age. One summer in the mid 1990s, we discovered that we had each planned a family vacation at a cabin complex in Cook Forest. This was quite an improbable coincidence (is that redundant?), seeing that Cook Forest is a good five-hour drive from Villanova that, although it is a very nice vacation spot for families with young kids, is not a well-known destination. It turned out that his trip was the week following my trip, which gave me an idea.

Buried treasure! What kid doesn't like buried treasure? We had so much fun buying or producing treasure, finding a spot in the pristine western Pennsylvania forest to bury it, and creating a treasure map (encrypted, of course) to leave with the cabin manager to pass along to Tom as a surprise.

I had my doubts about whether this plan was going to work, but Tom told me later that the whole idea was a huge hit. His children got a kick out of decoding the map and following the instructions, and yes, they did locate the buried treasure.

Across the years, whenever we reminisced about the treasure hunt, Tom always commented that his kids insisted on finding the treasure their very first day. Then he would say "It was so thoughtful of you to include that whoopee cushion!" This memory still makes me smile—especially knowing they all enjoyed a whole week in a cabin in the quiet woods with their treasure!

Lawrence M. Lesser, The University of Texas at El Paso

It's sobering to write this "Short Story" as a statistics educator the same age Tom Short was at his passing a year ago. And it's poignant having these words published exactly 10 years after my first *SERJ* paper appeared and exactly 15 years after my first *JSE* paper appeared because those papers were reviewed and accepted under Tom's respective tenures as the Editor of those esteemed journals. (Extrapolating from my 6 years as a *JSE* Associate Editor and 3 years as the *SERJ* Assistant Editor, I appreciate what a huge commitment of service Tom did, and it says a lot that Tom is the only person to date to have served as the Editor of both of those journals.) With both of those papers, Tom's thoughtfulness and thoroughness of feedback went beyond basic expectations for an editor, which I especially appreciated because both papers were attempting relatively challenging and novel integrations of domains and I needed all the guidance and encouragement I could get! I also remember a very helpful candid conversation with Tom at a time when I was considering a professional change. And I have been quite inspired by Tom's statistics education articles and presentations, his sense of humor and perspective, and by his example of stepping up without fanfare to help with whatever was needed at key stages of the field's trajectory. It was quite meaningful and bittersweet at this year's United States Conference on Teaching Statistics (USCOTS) to see one of Tom's sons accept on Tom's behalf a well-deserved USCOTS Lifetime Achievement Award.

Last December, needing a cathartic outlet from the haunting, shocking news about Tom, I picked up my guitar and somehow a song poured out in an hour. (I write lots of songs, but they rarely come this quickly!) Although I so wish Tom were still with us today instead of the song, it has been meaningful and comforting to share the song with colleagues who worked closely with Tom, and I hope it may offer some consolation or inspiration to journal readers as well. May we never underestimate or underappreciate the difference a colleague's example can make as we navigate our all-too-fast-moving professional and personal lives. And may we never take for granted the extent to which statistics educators form a welcoming and supportive community that readily steps up in time of need.

Here are the song's lyrics, and you can hear my homemade GarageBand demo at

https://www.youtube.com/watch?v=YTttzTV_vs0:

“Signal in the Noise”

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Data have context, so do lives—
Lives with jobs and kids, husbands or wives.
I knew a professor who found great joy
Guiding us through data, finding signal in the noise.

What does it mean, what can we report
When a statistician’s life is cut way too short?
Degrees of freedom lost leave us one choice
To keep on seeking signal in the noise.

He led and encouraged ‘cause that’s what life’s about;
Now he’s helping Heaven with big data in the cloud.
His wit and his warmth and humble poise
Will spark our seeking signal in the noise.

Jack Miller, University of Michigan

At the Stat Ed mixer at the 1999 JSM in Baltimore, I met a character named Tom Short. When the topic of where we were from came up, there were some striking similarities. Not only were Tom and I both from Cleveland, we were both from the East side. And not only were we both from the East side, he was from South Euclid, and I am from Lyndhurst. And we both went to Charles F. Brush High School in the South Euclid-Lyndhurst school district. Although Tom was five years older than me, we had to know people in common, right? We were both in band and orchestra, and that was a tight-knit group. When Tom heard I graduated in 1986, he mentioned that his sister graduated with me. Wow—this guy I happened to be talking to was my friend Amy’s “big brother Tom”! It turns out that I had met Tom briefly when he was the cool college student and came home for the weekend—Amy and I were watching a movie in the basement of their house when I met him. He was as cool as Amy had advertised him to be—cool in that music nerd and stat geek kind of way, of course. And there I was, over a decade later, meeting Tom again in our shared professional world.

Tom’s presence was always a calming one for me, almost like he was my big brother by extension. I just enjoyed having Tom around. Regardless of the context of statistics education in which I had the privilege of working with Tom (Section on Statistics and Data Science Education, CAUSE, AP Statistics, etc.), I remember Tom and his contributions fondly. Tom seemed always to radiate warmth and a smile. We lost Tom way before his time. I hope that Tom knew while he was alive how much all of us care for and about him.

Tom Moore, Grinnell College

I first met Tom in August of 1995 at the Joint Statistical Meetings, which were held at Disney World in Orlando. Tom and I were at one of the Disney hotels away from the main convention hotel. Tom was rooming with Allan Rossman, whom I had gotten to know previously. Disney provided shuttles but required that one connect through one of the “attractions” in order to travel between two hotels. In the heat and humidity, the prospect of making a shuttle connection was not much of an attraction, even to this native Floridian. By luck I had rented a car, anticipating some extra travel after JSM, so I was able to provide taxi service during the several days at Disney. Tom and Allan joked that I should have a meter in the car, but I assured them their company was payment enough. Turned out, it was more than enough.

Over the ensuing years I got better acquainted with Tom through the ASA’s Section on Statistical Education, one of the many places within the Stat Ed community that Tom contributed to so ably. I enjoyed his company over meals and always found him to be funny, intelligent, humble, and maybe even a bit self-deprecating. Considering his many talents, he could have been far less humble, but that was not, I think, in his nature.

I remember particularly well a talk he gave at one JSM about a study he had done to improve the readability of medical brochures, which, in the context he was involved with, were written at much too high a level for the average patient's reading ability. His study fixed that and his talk was entertaining and clear.

Tom went on to serve many and varied roles within Statistics Education, but I did not fully appreciate the extent of Tom's involvement until the memorial session in his honor at this summer's JSM. That session brought out much of what is great about the Stat Ed community *as a community*: there is a sense of purpose and service about us that seems rare among academic disciplines. Through the generosity and eloquence of the session's five speakers, I gained a fuller appreciation for the reach and quality of Tom's contributions to this community. His contributions were more than his talents for holding office, leading a session, being an AP reader, writing a book, or editing a journal. Tom's humanity enriched all of these endeavors with an extra dimension that was impossible to put on a CV but was remarkable in its importance. I thank the session's speakers for helping us who knew Tom less well to better appreciate Tom in this way.

One anecdote from that session reminded me of an incident I'd completely forgotten about. Roxy Peck was talking about Tom's natural gifts as a teacher and how he could work effectively with any age group. She told of the time he'd brought a bag of Teddy Bears to introduce very young students to statistics during Public Statistics Day in 2000. Roxy's story reminded me of a conversation I'd had with Tom as he was on the verge of his first tenure decision. He said that if he didn't get tenure, he might just become a kindergarten teacher. At the time I thought he was indulging in that dark jocularly we all resort to when we are nervous about some incipient momentous event. But given Roxy's experience, it is clear that Tom truly could have undertaken that radical career shift and made it great. Instead, he earned his tenure and stayed on the path through which we all got to know him. We count ourselves lucky for those years with Tom and only wish there could have been many more.

Jerry Moreno, John Carroll University

Our paths crossed in the 1980s as Tom, an undergraduate mathematics major here at John Carroll University, took four courses from me—probability, mathematical statistics, applied statistics, and applied probability models. He thanked me so many times thereafter, as those courses introduced him to the career that he clearly loved and in which he excelled. How kind and thoughtful a person he was. As his teaching career began, he would email me and ask if he could use in his own classes some of the things (often sophomoric) I did in mine (many of which I had forgotten—using acronyms like DYRTMGF—Do You Recognize This Moment Generating Function—to get students thinking about a derivation that we just did). Honored, of course, I would reply “By all means, thanks for asking.”

Speaking of email, I recall an informal poll he did in that math stats class in which he asked his peers if they thought I knew how to email! He thought not. He won! (Those were the early days of email, mind you.)

Always wanting to make people laugh, when he returned to Carroll as a colleague in my department a handful of years ago, Tom hid in a closet at the front of the room in which I was teaching a second-year statistics class. The classroom phone rang. I answered. A female voice (his wife Darlene, as I learned later) asked me something, and I replied that I think you have the wrong number. The voice then said to look over my right shoulder. Sure enough out pops Tom from the closet complete in Pirate garb (it was Halloween)! He was a Pittsburgh Pirates fan, in case you didn't know. The class roared. So did I. My, oh my, do I miss him.

How delighted are we as professors when our students do better than we could ever dream for ourselves. Tom was that student for me. When he made his rounds of serving as a faculty member at various universities, of having worn many professional hats serving ASA, clearly recognized as an exemplary teacher and researcher, and winding up here at Carroll as my colleague, I was thrilled. Even with all of his accolades, whenever he had a new idea he would stop by my office and ask me what I thought. How super kind of him. On one of many occasions, he asked me what I thought of his starting a statistical consulting lab in which he would canvas the campus for projects, outline what had to be done statistically, and then have students carry out the analyses to the extent that they could. What a

great idea, I responded. He was able to obtain a room on our floor designated for the lab. He and his undergraduates conducted several useful projects there.

I say farewell to Tom every morning as I drive to campus, passing the Hampton Inn where he had made a reservation and parked his car but never checked in. Rest in eternal peace, dearest friend.

Roxy Peck, Cal Poly – San Luis Obispo

The thing I loved most about Tom Short is that he was easily amused. Whether he was marveling at dueling GPS's during a car trip, or complaining about the choices of the current Bachelorette, or making ridiculous \$1 bets with friends, or saying that he had bought his wife jewelry for her birthday only to confess that he had gotten her an International Science Fair pin (which I quickly explained was *not* what his wife would consider jewelry!), Tom found humor in just about everything. And his joy and enthusiasm were contagious.

Tom used to always say that the AP Statistics Reading was his favorite week of the entire year. It was one of my favorites as well, because it was through working with him at the Reading each year that I really got to know Tom. One year when the Reading was in Louisville, we had to eat our meals using cheap plastic silverware. The food was tough and during one meal, I snapped two forks in half just trying to cut the meat. Every year after that, as a joke Tom would bring a set of real silverware to the Reading for me to use. He never tired of telling whoever was sitting at our table that he washed the silverware each morning by throwing it on the shower floor and kicking it around while he showered. As I have already said, Tom was easily amused! It was one of his most endearing qualities.

Over the years I had the opportunity to work with Tom and present with Tom many times and in many different settings. Whether he was introducing 3rd graders to statistics by having them sort and classify teddy bears, working with AP Statistics teachers to help them strengthen their background in statistics, or presenting at conferences, Tom was ALWAYS funny and charming, and his enthusiasm was contagious. He had a way of convincing each and every audience that there was nowhere he would rather be than there with them and talking about statistics. Tom motivated me to want to be a better teacher, and I learned so much about great teaching just from watching Tom.

About four years ago, I asked Tom if he would consider becoming a co-author on my statistics textbooks, and was thrilled when he agreed to work with me. Through the process of working on the books, we had a standing Friday morning call, and so we talked nearly every Friday. I now think of Tom often, and I especially miss him on Friday mornings, when I know that if I dial his number, no one will answer.

If you asked me to describe Tom in a few words, I would say quirky, funny, generous, and kind. He was a valued colleague and co-author, but most of all a cherished friend. He is greatly missed by family, friends, colleagues, and the entire statistics education community. Tom's story was too short.

Allan Rossman, Cal Poly – San Luis Obispo

Tom and I met in graduate school at Carnegie Mellon in the 1980s. We discovered that we had two things in common, and these two things kept us in close contact for the next 32 years.

One of these things is that we enjoyed teaching statistics, and we both decided to dedicate our professional lives to this endeavor. Tom and I embarked on careers as college professors at teaching-focused institutions. We also found opportunities to collaborate on several projects, for example writing articles about teaching probability and coordinating a series of workshops for mathematicians who teach statistics.

We encouraged each other throughout our careers. One specific memory is from the late 1990s, when I was presenting at a workshop in Philadelphia. Tom drove down to see me one evening, and we went to a food court in the Philadelphia airport, which was connected to my hotel. It was a weird feeling to be at an airport food court when neither of us was flying anywhere. We talked about Tom's interest in applying to be the editor of the *Journal of Statistics Education*. Tom was still early in his career, so this was an especially big undertaking. Tom applied for the position, was selected for the role, and excelled at the task.

Tom and I often roomed together at conferences, and I enjoyed hours of walking around cities with him. Our first conference together was in 1991 in San Francisco, a spectacular city for walking. Decades

later we continued to walk together at professional functions, for example at Daytona Beach and Kansas City before starting our days at AP Statistics Readings.

Another specific memory, which illustrates Tom's generosity and kindness to others, is from a conference in Miami. We were walking from the convention center to our hotel, and Tom asked me who had won the Ron Wasserstein Award that evening. I knew what he meant, because Ron had been coordinating this particular award for many years, but it wasn't called the Ron Wasserstein Award. Tom decided to act on his offhand comment by encouraging the organization to name the award for Ron, and he saw the naming process through to fruition. Tom was very good at getting things done, and those things often involved helping or honoring others.

Tom became extremely well-respected and much-admired in our profession. He made a tremendous impact not only on his own students but also on colleagues. Many statistics teachers around the country have been inspired by the creative ideas and boundless enthusiasm that Tom demonstrated at conferences and workshops.

I still have not mentioned that second thing that Tom and I discovered having in common while in graduate school: we loved following and talking about sports. My only visit to PNC Park was with Tom several years ago, and we marveled at how many Pittsburgh fans wore jerseys with number 21 for our hero Roberto Clemente. When LeBron James led the Cleveland Cavaliers to their first-ever championship a few years ago, I texted Tom within seconds of game seven's conclusion to mark the occasion. Tom replied quickly and mentioned that several other friends had also texted him, testimony to how infectious Tom's love of sports was. Another favorite memory was joining Tom in Kansas City to attend a presentation by sportswriter Joe Posnanski, after which Tom and Joe chatted about their common background as Cleveland natives and long-suffering sport fans.

Tom was one of the first people to join the craze for so-called "fantasy" sports. He started a fantasy baseball league known as MSBL (Mathematical Sciences Baseball League) in the early 1990s. This pre-dated the ubiquitous internet sites that now provide instantaneous sports updates, so Tom entered data every two weeks into a Fortran program that he had written for determining the league standings. My participation in MSBL has provided unabated fun, along with a good excuse for keeping in touch with Tom, over all these years.

I've mentioned Tom's kindness and generosity and enthusiasm, but one more trait must be mentioned, which will resonate with all who knew Tom: his sense of humor. Tom had an uncanny knack for skillfully infusing humor and playfulness not only into everyday life but also into professional situations, such as conference presentations and committee meetings, where humor is often in short supply and very much appreciated.

I am grateful to have shared a friendship with Tom for 32 years and will fondly recall many happy memories.

Josh Tabor, Canyon del Oro High School

I have so many great memories of Tom, but in the spirit of "Short" stories, I'll mention just two. Both are about the AP Statistics reading—a gathering of hundreds of statistics educators each June to score hundreds of thousands of student exams.

At the AP Reading, Tom loved spending time with others in various scholarly—and non-scholarly—pursuits. One year, Tom decided to bring his Playstation and the group game "Rock Band" to the Reading. Each night, no matter how tired he was, he brought the game down to the social lounge, set it up, and played along with other readers for as long as they wanted to rock out. Although setting up a Rock Band station isn't the first thing you would think of when describing a servant-leader, Tom was able to bring together many diverse people and provide each of them a chance to clear their minds, bond with the band, and be a rock star. (Shout out to our bandmates Jason and Sharon—you rock!)

One year when the AP Statistics Reading was held in Louisville, we stayed at a hotel that was soon to become a homeless shelter. This hotel was quite a distance from the convention center where the Reading took place, and I often found myself walking back and forth with Tom. During these walks I realized (at least) two things: First, Tom was a great story teller. It didn't matter the subject—he was always able to keep me interested with his keen insights about people and situations. Second, Tom was a great teacher (which is probably related to the first thing). As a high school teacher without much advanced training in statistics, I would bombard Tom with questions about everything from

experimental design to logistic regression. He enthusiastically answered my questions with clarity and insight. So, even though the facilities weren't great, I am grateful that I got extra time to walk and talk with Tom.

Doug Tyson, Central York High School

Tom Short was well known to me as a proponent of statistics education. However, I was relatively new to the AP Statistics Reading, having served as a reader for just a few years. So I was shocked to see that Tom sent me a friend request on Facebook. I gladly accepted the request.

When I saw Tom at the next AP Statistics Reading, I asked him about the Facebook friend request. Our brief conversation went something like this:

I: "Hi Tom, thanks for sending me a friend request on Facebook."

Tom: "Sure."

I: "I know who you are, but I'm surprised you know who I am. We really haven't interacted much."

Tom (grinning): "Well, to be honest, a friend and I were having a contest to see who could get to 1000 Facebook friends the quickest."

If you know me, then you know that I like a good joke. This time, the joke was on me. I had to laugh at his confession. Tom was good-natured and helpful and friendly. He always had a joke and/or kind words for those who were blessed to cross his path. But it was that wry grin that that I'll remember most.

Jeff Witmer, Oberlin College

I knew Tom for many years and always thought of him as a creative and devoted teacher. The two of us entered the statistics education scene at about the same time, and Tom was a helpful sounding board for me over the years as I navigated the politics of the liberal arts college world. When I was considering applying for the position of editor of *JSE*, Tom's experience in that role helped convince me to go ahead and throw my hat in the ring.

Whenever I interacted with Tom, I was delighted by the range of his interests. We shared a love of sports, particularly baseball, and I regret that I never made it to an Akron Aeros baseball game with him. I have only somewhat less regret that I turned down Tom's invitation to go with him to see Lady Gaga in concert.

What I never turned down was the chance to talk about statistics education with Tom. What courses should a school offer? What software should we use? What are some good examples to present? Tom always had plenty of good ideas and advice.

One lasting memory is that when I would call Tom, he would answer the phone by saying: "This is Tom Short and today is the best day of my life." That always brought a smile to my face, and every interaction I had with Tom left me feeling better.

Churchill said: "We make a living by what we get, but we make a life by what we give." Tom gave a lot, and I deeply miss him.