



**A Tribute to Ann Watkins
Recipient of the 2015 CAUSE-USCOTS
Lifetime Achievement Award
from the
Math & Statistics Education Community**



Ann Watkin's career gives concrete meaning to the theme of the 2015 USCOTS: "Making Connections"

MOUNT HOLYOKE

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George W. Cobb
Robert L. Roche Professor of Mathematics and Statistics

Dear Ann:

I can't tell you what an emotional moment it was for me when I learned that you would be receiving the Lifetime Achievement Award. To preserve the integrity of the selection process, Dick Scheaffer and I had recused ourselves from the selection committee, and we knew that there were many outstanding nominees, but I didn't find out until just yesterday that you had been chosen.

In this letter I want to do two things. First, I want to put on record (for you, for Bill, and for the younger generations now and to come) my sense of all you have accomplished and how much you have contributed. Second, I want you to know how much it has meant to me personally to have had the privilege of working with you over the years.

For the official record part, I apologize for sounding more formal than I would have wanted, because there's a lot of feeling behind the recitation that follows. If I could have managed to put your cv into an ode or a limerick, I would have done that. Apology deployed, here goes with the formal part: I think of your contributions under six headings: their context, uniqueness, duration, breadth, volume, and influence.

Context. In appreciating the full magnitude and influence of your lifetime of accomplishments, I take both a long view and a broad view, looking back over the changes in our field since the mid-1960s, especially the relationship between statistics and mathematics, where you have had such an impact. Statistical practice, as an applied science, has largely been free to use mathematics without having to depend on the support of mathematicians. Not so for statistics education. The teaching of statistics has long been dependent on patronage from departments of mathematics, whose orthodoxy regarded statistics as mere numerical ritual in service of a loftier abstraction. Computers and Tukey's EDA opened the door to David Moore's heresy: "Data are not just numbers, but numbers with a context." Computing and EDA energized graduate programs in the 1970s, but it would take another decade of trickle-down, and more, for statistics to be recognized in K-16 as a subject in its own right. This change in how educators think about statistics within K-16 has been pivotal in bringing statistics education to where we are today. No one, as Dick and I know all too well, has done more than you to make this essential transition a reality.

Uniqueness. To me, you are one of a double handful who are without peer in the history of statistics education. You are the only person to be elected both President of the Mathematical Association of America and Fellow of the American Statistical Association. More than any other statistics educator you have worked within the mathematics community for decades, tirelessly, thoughtfully, and effectively, to highlight the importance of statistics and to ensure that our subject is taught with an appropriate emphasis on data. More than any other mathematician, you have worked collaboratively with statisticians and their organizations, over the decades of your career, to ensure that mathematicians and statisticians work together: to appreciate their similarities and differences, and to advance the teaching of statistics, from the elementary grades through the undergraduate curriculum.

Duration: Your first major contributions to statistics education date back 30 years. Long before I had even attended my first national meeting, you were already one of the leaders of the QL project. (This is not to say that I'm a stripling and you're a dinosaur, only to salute you for making a big difference while I was still getting warmed up.) I'll defer to Dick Scheaffer to write first-hand about QL and your other influential work at that time.

Breadth. A simple measure of the breadth of your achievements comes from the list of national and international conferences where you have been an invited speaker: ICOTS, USCOTS, JSM, JMM, NCTM, and ICME. What matters here of course is not the number of venues but the span of the audiences who have wanted to hear from you. The same is true for the range of journals of your published articles: TAS, JSE, CHANCE, CMJ, Math Horizons, AMM. Moreover, you have not been narrowly limited to a focus on the introductory course. As you know, but others may not, you have taught courses in regression, probability, mathematical statistics, and multivariate statistics.

Volume. Granted, it is the substance of your contributions rather than the mere count that is responsible for your influence on statistics education. Nevertheless, the volume of your substantive contributions reflects your impact. Imagine riding down Broadway with your bibliography floating down as pieces of ticker-tape:

Books. It's not news to you, of course, but the wafting paper tributes would include your primary authorship or co-authorship of many books related to statistics education: *Exploring Data* (1986), *Exploring Surveys and Information from Samples* (1987), *Statistical Abstract of Undergraduate Programs in the Mathematical Sciences and Computer Science* (two books: 1990-1 survey published 1992, and Fall 1995 survey, published 1997), *Activity-Based Statistics* (1997), *Contemporary Mathematics in Context* (1996; you wrote the chapters on probability and statistics), *Teacher's Guide – AP Statistics* (1997, primary author), *Statistics in Action* (2003)/*Statistics: From Data to Decision* (2011, primary author). Myriad other paper salutes: You were co-editor of three other books, and wrote or co-wrote chapters on statistics for eight other books; you also published three articles in TAS, two in JSE, and statistics-related articles in journals for teachers of mathematics.

Grants and workshops (Imagine many hundreds leaning out Manhattan windows cheering as you ride past. OK, OK, I'm overdoing the metaphor, but I know all your many workshop participants would agree with me.) You have been PI, co-PI, or member of the advisory committee for more than two dozen grant-funded projects, most of them funded by NSF. In connection with those grants, you have organized or co-led dozens of workshops, beginning with the Quantitative Literacy workshops in the 1980s, and including many workshops related to teaching statistics for K-12 teachers across the country.

AP statistics. There's a lot I could say here, but Dick can say it better and first-hand, so I'll leave it to him and simply rely on David Moore's dictum that for innovations to take hold, they have to be institutionalized. You've done as much as anyone to help institutionalize the change represented by the AP curriculum.

Leadership and service. To become more personal, it is characteristic that you lead through service. Yes, you were elected President of MAA, but you won that election through a career of service as well as intellectual leadership. We voted for you because you had earned it. For the record, here are just two categories, editorial and committee membership. *Editorial.* You were co-editor with Bill of *The College Mathematics Journal* (89-93), associate editor of the *American Mathematical Monthly*, founding editor of *The Statistics Teacher Newsletter*, and reviewer or member of the editorial board for many other journals. More pieces of ticker-tape floating down. *Committees.* Over the last 30 years, you have served on dozens of committees – of the MAA, ASA, NCTM, and other organizations. Consistently, thoughtfully, and effectively, you have worked to advance the cause of statistics education.

Enduring influence. In summary, Dick Scheaffer and I suggested in our nomination letter that a suitable context for evaluating the magnitude of your lifetime of achievements is provided by two fundamental and parallel evolutions in statistics education over the last half-century – one intellectual and one institutional. Your work has been critical in advancing both.

Intellectual – Think of David Moore's "Should mathematicians teach statistics?" and "Teaching statistics as a respectable subject." David articulated the arguments, but you were the leader among mathematicians in recognizing the validity of Moore's arguments, and in persuading your fellow mathematicians to pay attention. It is now part of the mainstream that statistics is a subject in its own right. That new understanding is rooted in computing, real data, and Tukey's EDA. Ahead of many of us, you were quick to recognize the change and lead the effort to spread the word.

Institutional. It would be natural for statisticians' declaration of independence from mathematics to lead to ill will and nasty fights (You are all too familiar with the caricatures, of course: mathematicians think statisticians are just inferior, failed mathematicians; statisticians think

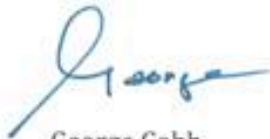
mathematicians are ignorant and arrogant). You deserve a lot of the credit not just for our avoiding "stat wars" but more positively, for our reaching a mutually beneficial understanding and working together over the last decades.

Dick Scheaffer put it well: You have been key to the transformation of statistics education from descriptive statistics, probability and watered-down theory to an emphasis on data analysis in the Tukey tradition. The emphasis on data is what allowed statistics to become an ever expanding part of the mathematics curriculum since the 1980s, where previous efforts had failed.

Imagine where statistics education might be but for you. Thanks largely to your intelligent openness to statistical thinking, to your energy and commitment, your thoughtful, impactful writing and speaking, and your diplomacy in persuading statisticians and mathematicians to work together, statistics is now an integral part of the K-12 curriculum, is now recognized by college mathematics departments as an important subject in its own right, and statistics education is now facing a bright future.

On a personal level, I think with warmth, admiration, and gratitude for all that I've learned from you, ranging from the importance of taking the rhetorical chip off my shoulder for the sake of building bridges, back 25 years ago when we worked together on the joint ASA/MAA committee, to the rewards of being a grandparent, which rewards I have not yet experienced, but look forward to with enhanced anticipation thanks to our more recent conversations. In between, I've come to value and learn from our work together, from the way you think, from the way you work with others, and from the way you get so many things done. I've also learned from our disagreements, which have been more transformative for me than you probably realize. Someone once said, "I used to want it nice. Now I want it real." I think of you as one of my models for learning how to be nice while insisting that we keep it real. That has meant, and still means, an immense amount.

With enduring thanks, admiration, and fondness,

A handwritten signature in blue ink, appearing to read "George Cobb". The signature is fluid and cursive, with a large initial "G" and a long, sweeping underline.

George Cobb
14 May 2015

Although Ann is more known for her contributions in statistics education, I had the pleasure of having her as my first linear algebra instructor at CSU Northridge. It was the first course in my career that required lots of abstract thinking -- it was sort of my "introduction to proofs" type of class. Her approach to teaching was quite unique in that she allowed the students to navigate many of the discussions as we tried to come up with and prove various results. In many ways it was a Moore Method-like experience and it was wonderful.

Some key professors I had at Northridge played a big role in giving me the courage to aspire to become an academician. Ann certainly is among the top three professors that come to mind. As a fledgling undergraduate unfamiliar with pedagogical techniques, all I could go by was what I saw in the classroom to understand how one should and should not teach. And after watching Ann teach and being inspired by her presentations, I remember often thinking to myself "I wanna do what she does".

I've been fortunate to remain in touch with Ann over the years and I've particularly appreciated her helpful advice as I trudged along my career at Cal Poly. I feel quite lucky to have been her student and the fact that I still, to this day, think back to my linear algebra experience with Ann reminds me of the long-lasting and positive impact we as faculty can have on our students and, even in some cases, the direct influence we can have on their eventual professional careers. Thanks Ann for everything!

Jimmy Doi

OBAMICON.ME



STATS

Ann,

Thanks very much for all you've done for statistics education over the years. You've been an inspiration to me and many others. I greatly enjoyed working with you on AP Statistics, where I saw and admired first-hand your commitment to high standards for excellent work at all times. I hope that the "Fundamental Theorem of Grading Investigative Tasks" that you coined will endure for years to come, not only for that specific task but in life more generally: Don't sweat the small stuff.

Congratulations on this very well-deserved honor,

Allan

Dear Ann,

It is a real pleasure to write and congratulate you on your CAUSE award. It was delightful to work with you over the years. You even got me on a joint ASA-MAA committee, if I remember correctly.

What impressed me most was your broad view of mathematics and statistics, with a focus on what each field had to offer the other field. I don't believe you ever suggested that the fields were in competition or expressed concern about turf issues. You were just fair and wise.

Again, congratulations!!!

Ken

Dear Ann,

Congratulations on receiving the **CAUSE Lifetime Achievement Award**! It's been my great privilege to work with you and to consult you from time to time, and so I know just how well-deserved this award is. It is difficult to meet a statistics teacher in Southern California, at any level, who hasn't been influenced by your work and your energy. You were a voice of reason during the math wars; you were a person who could remind us statisticians of why math was needed and scold mathematicians who didn't see the value of statistics. More important than teaching us *what* should be taught, through your book *Activity Based Statistics* and workshops, you showed us *how* it should be taught. I remember once, quite awhile ago, we both attended a workshop/conference for beginning teachers of statistics. You were the keynote speaker, and you attended my "hands on" workshop. I had the participants analyzing data about movie earnings, and was feeling a little frustrated by having to deal with a heckler. At one point, he saw that the movie *American Beauty* was one of the data points. "That was a horrible movie," he said, "I can't believe my own son liked it." Very drily, you said "Perhaps your son is intelligent," and my heckler problem was solved. From that moment on, I knew you were a person who was not afraid to say what was right, and were a great person to have in one's corner. You have stood in many people's corners, fighting to improve statistics education, and, fighting to improve the position of under-represented groups within the Mathematical Association of American. (I refer not only to statisticians, but also to GLBT mathematicians, for whom you took some bold stands while on the board.)

The statistics education community would be much less without you, and I thank you for your work. I'm not that fond of the title "Lifetime Achievement", since it seems to connote the end of a career which I know is still going strong. So I am thinking of it as an "Achievement So Far" award.

Congratulations,

Rob

Dear Ann,

Congratulations on receiving the Lifetime Achievement Award in Statistics Education, and it's so well deserved! I'm proud and pleased to have been able to collaborate with you on K-12 statistics topics through the ASA-NCTM Quantitative Literacy Project earlier in your career. It was hard work, fun, and I think it made a difference and set the stage in the 1980's through the early 1990's for the progress and results that are visible on many fronts today. You have very effectively helped to bridge the mathematics and statistics education communities through your teaching, writing, leadership in professional activities, and many strong collaborations in all these areas.

Collaborating with you was special. You are open-minded, have strong views and are able to articulate them clearly, but are also willing to listen, willing to change your mind if warranted, and all in the spirit of true professional respect. I think that these qualities combined with your intelligence and willingness to work hard were keys to your strong contributions and success in so many domains. I consider myself very fortunate to have benefited from them early on myself. And collaborating with you was fun. Among my many pleasant memories: the first QL workshop in Williamsburg, VA, in 1981; ICOTS in Victoria, CA; ICME in Australia, and you and Bill hosting Jacques and me so that we could attend the 1984 Olympics in LA; visiting Sequoia with you and your family; surveying NYC atop the observation deck of the World Trade Center; the excitement of you and Mary in seeing fireflies; behind-the-scenes work getting *The Statistics Teacher Network* going; helping to present QL and related workshops with you in many states; and many more memories.

Best wishes to you, Bill, and all your family,

Jim

Dear Ann,

It was such a great pleasure to hear that you are being recognised by the CAUSE/USCOTS Lifetime Achievement Award in Statistics Education. Congratulations on a very well deserved honour.

I would also like to broaden the scope of the congratulations to include all those who served with you on the Joint Committee and also the thousands of teachers whose task of introducing Data Analysis into the curriculum was made much easier by your writing, workshops and supportive enthusiasm.

Just thinking about this brings back all sorts of great memories. There was the time (1978?) when a young pregnant? professor came into the room at the NCTM Conference in San Diego where (I think?) we were talking about the upcoming first NCTM Yearbook devoted to the teaching of Statistics and Probability. Then, what I think was your first meeting of the Joint Committee in Toronto. A year later, in St Louis, your great support for the idea of a big writing project led to the Williamsburg Conference and on to the great success of the Quantitative Literacy Project.

There were also the fun times in lots of interesting places from Disneyland to Canberra and Adelaide and back. But it was your enthusiasm for what we were doing that that really stands out along with the encouraging and knowledgeable support you gave to all the High School and Elementary School teachers we met during the project and afterwards.

Yes, it's wonderful to see all that work and enthusiastic support being so well rewarded.

Best wishes

Jim Swift

... and all members of the ASA/NCTM Joint Committee on the Curriculum in Statistics and Probability

Ann,

I am honored to have been asked to contribute to this well-deserved tribute to you and your career. The impact you have had on my professional life is profound, and I welcome the opportunity to tell you how much I appreciate all that you have done for me, personally, and for AP Statistics as a whole.

I remember (back in 2003, maybe?) when you posted a message to the AP Statistics List-serv about the Key Curriculum Summer Institute on teaching AP Statistics with *Statistics in Action*. I replied that you should do a workshop in Wisconsin. Your response was something like, “Ha ha. You’ll never get this California girl up there!” Then the next time I suggested you do a workshop in Wisconsin, you countered with an invitation to present with you and Dick that next summer.

You gave me opportunities I had no business getting. Inviting me to present with you and Dick at the Key Institute when I had very little statistics teaching experience, then to work with you on *SIA*, were both experiences that changed my life. I enjoyed a very steep learning curve, to say the least! You brought me into the AP Statistics community in a way I would ever have achieved without you. Your guidance and advice helped me in immeasurable ways as my involvement in the statistics community grew. You introduced me to people, recommended me to people, and provided me with many opportunities for growth. I am grateful.

As far as AP Statistics is concerned, *Statistics in Action* did so many things right. And, even though the sales didn’t take off the way they should have, many important ideas have made their way into other materials. Including competing textbooks, which I know is a bit of a double-edged sword, but it does highlight the impact you have had. Many have shared with me that you are their favorite question leader at the reading. Your directness and your ability to explain complex ideas so simply are refreshing and much appreciated.

I’ll also point out that when you accepted my invitation to speak at our state conference, I did “get this California girl up there.” So I win.

This Lifetime Achievement Award is so well deserved, and I am glad it gave me the opportunity to share with you the impact you have had on this one teacher. I will always see you as my mentor, my inspiration, and my friend. Congratulations!

Corey

An area that has impressed me about you, Ann, has been your ability to bring mathematicians and statisticians together. So many of us “isolated” statisticians who are in mathematics departments have relied on you as mathematician who understands statistics to help our mathematics colleagues understand how to teach statistics moving from a formula-driven course to a conceptual one. Equally impressive, Ann, have been your contributions to statistics education at the school level including writing for the QL project, reviewing DDM modules, being the founding editor of STN (seven years before NCTM’s 1989 curriculum standards that brought statistics into the classroom), chairing the initial Test Development Committee for the AP Statistics Exam. Much of the success that statistics currently enjoys in school curriculum is due in one way or another to your ground-breaking efforts, Ann. Awarding you the Lifetime Achievement Award is a wonderful acknowledgement of how very important and influential you have been to statistics education. I can’t begin to thank you enough, Ann, along with my most sincere congratulations!

Jerry



Dear Ann,

My most sincere and warmest congratulations! A better person could not have been selected for the Lifetime Achievement Award. Your mentorship has meant the world to me and I cannot begin to express my gratitude for the amount you have taught me. I hope you keep your knowledge coming my way for many more years to come! I feel extremely lucky to have the opportunity to work with you.

Anna

Anna Bargagliotti





School of Arts and Sciences
Department of Mathematics

May 25, 2015

Dear Ann:

Congratulations on this well-deserved award. Throughout your career you have made important contributions to mathematics education and to the mathematical profession. We first met when you and Bill were editors of CMJ and then when you were Vice President of the MAA. During those years we served together on what was then known as E&F. I remember that Len Gillman was a big fan of yours and Len had impeccable taste. Of course, he was right. Your advice was thoughtful and "right on."

When we began the Interactive Mathematic Teaching Project you made sure that Pierce was one of our sites and you helped with the management of the project. It is interesting to see the current movement to "active learning" and realize that we were doing it back then.

I recall our conversation shortly after you were elected MAA President. You told me that one of the reasons that you were elected was because you had been active in so many different mathematical activities: NCTM, two year colleges, AP grading, MAA journals, MAA governance and statistics education. Of course, that was only part of the story. You weren't elected because you were involved in those activities. You were elected because the people you worked with in those activities thought that you did a great job and would do a great job as President of the MAA. They were correct. I remember sitting at Board of Governor meetings while you were President and thinking how glad I was that you were President. There were a number of contentious issues that you handled much better than I could have.

When I learned that you were receiving the "Lifetime Achievement award from the Consortium for the Advancement of Statistics Education." I immediately thought of the New Hampshire farmer who was asked by the city slicker: "Have you lived here all your life?" and replied; "Not yet." So I look forward to continued contributions from you in your many mathematical activities and see this award as milestone recognition.

Congratulations, Ann

Cordially,

A handwritten signature in cursive script that reads "Jerry".
Jerry Porter

Dear Ann,

On behalf of the SIGMAA on Statistics Education, we write to offer our congratulations on this wonderful and well-deserved honor! We also write with thanks for everything you have done to advance statistics education. We so appreciate all your public work and also all your behind-the-scenes work both in the MAA and in ASA. We also appreciate your long-term support of and connection with the SIGMAA on Statistics Education.

Congratulations on the CAUSE Lifetime Achievement Award and thank you again for all that you do!

All the best,
Patti Frazer Lock, on behalf of SIGMAA-Stat Ed
Chair, SIGMAA on Statistics Education

Dear Ann,

Congratulations on your Lifetime Achievement Award! I was glad to learn of it from George and also to learn that I could add my mite to the praise for what you have accomplished.

When I think back to your MAA presidency, I remember your wonderful mix of rigor and support for CUPM's efforts leading to the 2004 Curriculum Guide. You always pushed us toward precision and evidence, and while we often didn't succeed, the push sharpened and improved what we wrote. I don't think of you as advocating for statistics or any other particular area of the collegiate curriculum, but rather as advocating for excellence.

Our joint service as advisers to the MAA calculus project was another arena in which I saw your gifts for clear thinking and wise decisions.

Again congratulations and warm good wishes,

Harriet

Harriet Pollatsek



BROWN

Department of Mathematics

Lifetime Achievement Award Committee
Consortium for the Advancement of Statistics Education

Gladly I take this opportunity to express my gratitude for Ann Watkins' many contributions to math education and teaching, including her special concern for statistics. As her immediate predecessor president of the Mathematical Association of America, I was proud to "pass the scepter". As her colleague on the Conference Board for Mathematical Sciences, I was pleased to build interactions among all the national professional organizations concerned with mathematics and statistics education. I am proud of her lifelong achievements in this important area. I look forward to being on the platform with her later this summer when all available ex-presidents will speak at the MAA Centenary celebration.

The best to you, Ann, on the occasion of this well-deserved recognition.

Sincerely,

Thomas Banchoff
Professor Emeritus of Mathematics
Brown University



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May 27, 2015

Ann Watkins
Professor
Department of Mathematics
California State University, Northridge,
18111 Nordhoff Street
Northridge, CA 91330

Dear Ann,

On behalf of the ASA's Board of Directors and its 19,000 members, I congratulate you on being selected as the recipient of CAUSE/USCOTS Lifetime Achievement Award in Statistics Education. We applaud this well-deserved recognition of your passionate and insightful efforts to enhance statistics education and your outstanding service to the profession. Your leadership in Quantitative Literacy and in AP Statistics has been extraordinary. As noted in your citation for ASA Fellow, you have made innovative contributions both to curriculum and pedagogy, you have been a masterful teacher, both of students and of other teachers, and you have been an outstanding voice for reform in statistics education. Further, we acknowledge with gratitude your leadership when you were MAA president (and after) in promoting statistics and statistics education throughout the mathematical sciences and education communities.

We offer our sincere congratulations and are delighted for your lifetime achievement award! Thank you for being a wonderful ambassador for statistics, and for inspiring others to follow your example.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Wasserstein".

Ron Wasserstein, Executive Director



Ann –

Congratulations on the **2015 USCOTS Lifetime Achievement Award!** Great to see that you've joined Dick and George to get the entire author team to this status. That's quite an accomplishment - and anyone that can ride herd over both Dick and George in such a writing project deserves an award! Among your many contributions to improving statistics education, I particularly appreciate the role you have played in coaxing mathematicians to have a better appreciation for the field of statistics - another very challenging task. I've also enjoyed working with you as part of the AP Statistics reading program. You are still the absolute best at designing a training for Question #6 (the dreaded investigative task) in a way that breaks down a complicated, technical process to be superbly organized, effective, and efficient while, most importantly, being sensitive to the varying backgrounds that the teachers bring to the endeavor. That requires a unique set of skills that many of us aspire to, even if we can't package them all.

Robin

**2005 USCOTS Plenary Speakers:
Roger, Roxy, George, Dick, Robin, Ann, & Cliff**



IDEALS TO ACTION



St. Olaf College
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May 26, 2015

Dear Ann—

I was very pleased to learn that you have been chosen this year as winner of the Lifetime Achievement Award in Statistics Education. More than any other person, your sustained leadership helped mathematics teachers comprehend and, eventually, embrace the data revolution in statistics that emerged as computer power spread across society.

During the mid-1980s several upheavals created serious disturbances in the teaching of mathematical sciences—the first national “standards” for school mathematics, the reverberations of Tukey’s EDA in statistics education, and the movement to reform the teaching of calculus in higher education.

In subsequent years, as these forces for change worked their way into school and college curricula, you were the most consistent, effective, and persuasive advocate for data-focused statistics education within the community of mathematics educators. You were one of very few individuals who worked effectively at all educational levels—high school, two-year colleges, four year colleges, and universities. As a rare statistician working within the mathematics community, you conveyed unique authenticity in discussions of statistics education. Your election as president of the Mathematical Association of America attests to the high regard with which your work was (and still is) held.

The Lifetime Achievement Award not only honors you for this extraordinary career, but just as important, it calls attention to the continuing importance of the kind of leadership that your life’s work represents. In an era of emotional disputes over school standards and widespread public disregard of scientific data, the need for individuals such as yourself who offer sustained, well-informed, and calm leadership is as great as it ever has been.

The Lifetime Achievement Award both honors you and highlights a much-needed exemplar of educational leadership. It is truly well-deserved.

With warm regards,

A handwritten signature in cursive script that reads "Lynn A. Steen".

Lynn Arthur Steen
Professor Emeritus of Mathematics, St. Olaf College
President (1985-86), Mathematical Association of America



I have been most fortunate to have Ann Watkins as my friend and colleague at CSU Northridge. Not only did her joining the CSUN Mathematics Department in 1990 increase the size of our statistics faculty by 50%, but Ann brought a fresh perspective and new ideas that have enhanced our department in innumerable ways over the years. I am greatly indebted to Ann personally for the numerous insights into statistical education she has provided me; my own teaching has certainly been enriched from what I have learned from my interactions with her.

Ann's insights and investigations into statistics exhibit the finest traditions of science and the search for truth. She has a long record of questioning prevailing knowledge and is a master in identifying parts of statistical teaching and practice that have been built on faulty foundations. Ann is a tireless worker, and her talents in developing effective and highly stimulating educational materials are simply remarkable.

The significance of Ann's role in helping to develop the AP Statistics course is hard to overstate. This is a course in which student enrollments have increased at a higher rate than for any other AP course and which has resulted so far in well over a million students having taken the AP Statistics exam. This achievement has profoundly enhanced the exposure of statistics as a field of study. How many individuals can claim that sort of influence and inspiration for the lives of so many young people?

I consider Ann Watkins to be one of the great statistical educators of our day. It has been a great privilege for me to have known and worked with Ann for the past 25 years and I hope for many more.

Mark Schilling
Professor of Mathematics
California State University Northridge

Dear Ann,

Thank you so much for all you have done for statistics education, in particular for AP Statistics. While you probably had no idea at the time, you were very helpful to me as I began teaching the course in 1996. During those early years, Gretchen Davis was my mentor, graciously sharing the materials she was able to gather—including exams from some amazing teacher named Ann Watkins. I can picture the exams we studied, trying to learn the content for ourselves and how to build assessments. I still remember a great item about tomatoes and standard deviation that really solidified my understanding. And thank you for your leadership at the AP Reading. I have lost track of how many rubrics we worked on together, but I always knew that working with you was going to be a great experience. I hope our paths continue to cross!

Josh



Dear Ann,

What a joy it is for me to congratulate you on your **CAUSE Lifetime Achievement Award**. And how well deserved it is.

I recall the first time I met you. It was in June of 1990 at a conference on the teaching of introductory statistics that Bob Hogg organized in Iowa City. Bob was always giving me plum assignments and on that occasion he let me moderate a discussion group that included you. Also in that group were Jim Landwehr and Brian Joiner. A few years ago I wrote a long overdue thank you to Bob Hogg for all the things he had done to help me along in my career and the opportunity to moderate that discussion group was one that meant an awful lot to me. “Heady stuff” is what I called it in that letter to Bob.

I recall having read before that conference the QL materials that you and Jim had been working on and which were, in my opinion, very innovative. Something that always impressed me about you was your willingness to challenge the cliché or to embrace a new idea. The approach in those QL materials was one example—I recall, for example, your novel way of introducing confidence intervals. Your later paper on the normality or non-normality of superimposed men and women height distributions was another such example—how you were able to obtain what to me was a counterintuitive result simply because you were unwilling to look at the world as prevailing wisdom wanted us to. How many of us were “surprised” that our assertion that—of course—one would get a bi-model distribution by aggregating men’s heights with women’s was simply “not necessarily so” (to channel George Gershwin). And it was in your beautiful paper that you told us when it might be and when it might not.

I suspect your willingness to think broadly and creatively was part of your innate brilliance of mind, and it probably also reflected your broad range of interests: mathematics, mathematics education, and statistics. It seems as if the most creative thinkers about our craft of teaching mathematics or statistics that I have encountered are people in mathematics education and you are at the top of that rarified list.

I thank you for your willingness to publish a paper of mine on plane dissection problems in the CMJ—not just willingness, actually, but your enthusiasm and encouraging manner of making that happen. I thank you for your support of our SLAW organization in just being an encouraging presence for us in the MAA and ASA. I thank you more globally for your leadership for our professions through both ASA and MAA—especially your presidency of the latter.

And I thank you for trusting your daughter to my beloved Grinnell and your enthusiastic appreciation—voiced numerous times to me, even though she never took a class from me—for her experience here.

Best wishes going forward and, again, my hearty congratulations.

Tom

Dear Ann,

Time: 1980, Spring, as I recall

Place: Toronto, Canada

Event: ASA-NCTM Joint Committee Meeting, Jim Swift, Chair

At this meeting I first met a very young Ann Watkins, and my life has never been the same. I thought I knew something about teaching statistics back then. After all, I was a professor in a fairly well respected academic department. How naïve! I soon learned I knew almost nothing about teaching modern statistics effectively. I had to start all over, but now I needed you as a guide.

Mathematician, statistician, educator in both fields, with tremendous intellect, sharp vision, and a drive for accuracy and clarity, you were (and are) unique—a very special person, indeed. Combining those capacities with a heart for teachers and teaching and the tenacity to get things done, it was obvious, even with my less clear vision, that you were destined to be a leader in redirecting statistics education from abstract theory to practical reality.

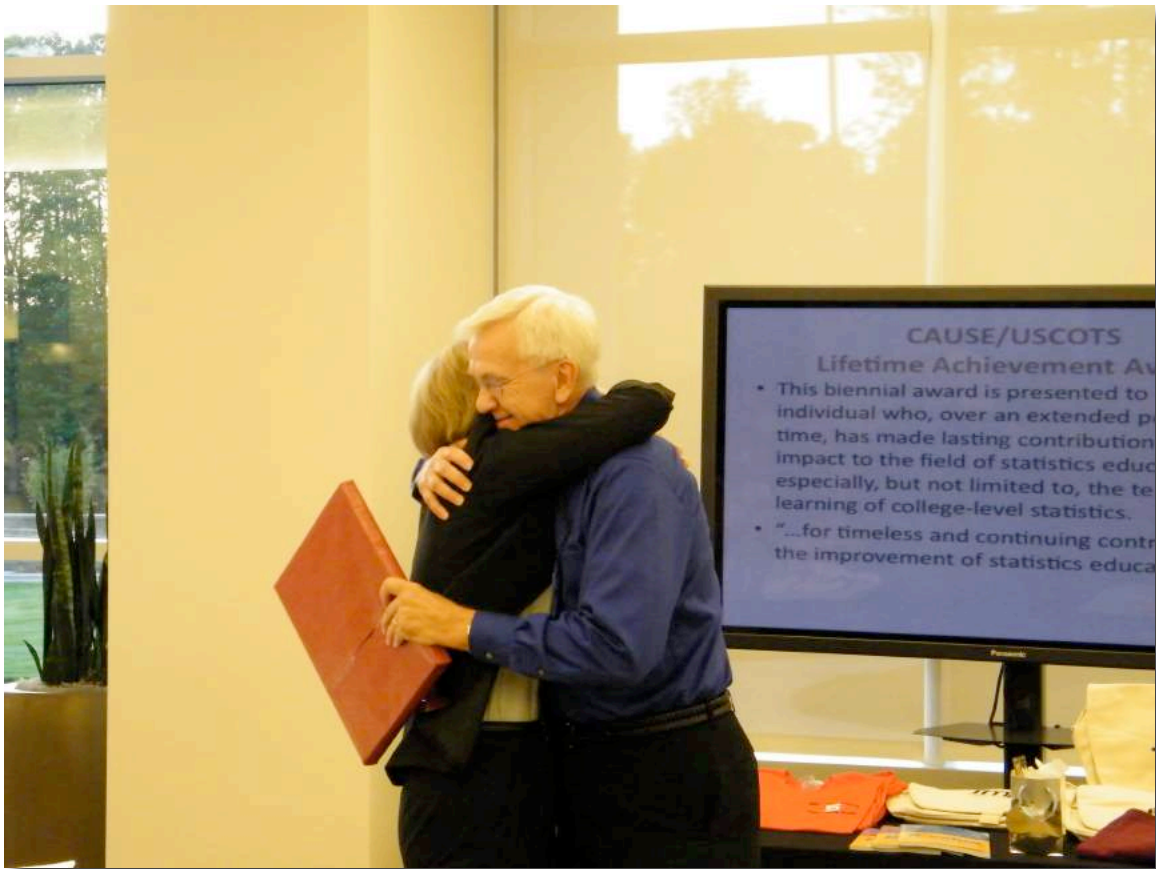
I am extremely happy and eternally grateful that you did become my guide, but, more importantly, you became a valued colleague and friend. We have gone through a large array of “interesting” activities together over the past 30+ years (I will not attempt to list them here), and I’ve always been amazed at your insights into making statistics as interesting as it is indispensable for an educated person—at any level—and your commitment to doing so. Very often you were the one providing the brains, inspiration and imagination, while I often got credit I did not deserve (as in the QL Project and AP Statistics, to name just two such cases).

For me, our working together has been an exciting joy ride (although, perhaps not every day of it). I hope you consider it a good trip, too. In any case, thank you, Ann, for allowing me to share the ride.

Congratulations on your Lifetime Achievement Award. I can think of no more deserving person.

With Fond and Lasting Memories,

Dick



USCOTS 2011



I congratulate Ann Watkins on being recognized for her outstanding career by receiving the CAUSE Lifetime Achievement Award. As Ann's friend and colleague I am so very proud of her and her accomplishments, which earned her this distinguished award. I first met Ann in 2000 when she was President-elect of the Mathematical Association of America and I just started my first term as Executive Director. When she assumed the Presidency one year later, I was still learning how an Executive Director and a President relate to each other. We gave many talks explaining the differences in the roles of President and Executive Director. Ann loved being President of MAA and members responded in kind. In many ways, Ann was an unusual choice. She was not from a research university, her fields are statistics and education, and she was only the fourth female President of the MAA and the last to this day. But Ann's election is not surprising given her national profile, years of dedicated service to MAA in many different aspects, including notably publications, and the high regard in which she is held. It is also not surprising that she was a great President.

With Martha Siegel as Secretary, Ann as President, and me as Executive Director, it was quite a time for women at the helm of the MAA. We had a fabulous time. We were in constant communication. We all loved doing MAA business and working together came easily. Ann spoiled me. She was on top of everything, she could be all business yet she was always warm and supportive. She knew how to build community and she knew how to fight the battles that needed to be fought. She was deeply steeped in the culture, the history, and the people of the MAA and used her knowledge in making the MAA a better organization. I am so lucky that my first full-term President was Ann.

One of Ann's many lasting accomplishments was bringing the MAA and ASA closer together. She both distinguished statistics education from mathematics education and brought them together in common causes. Ann was President of MAA at a time when we needed to bring more professionalism and a more business oriented approach to its management and she was very involved in that work. I relied on her and I could always count on her help and advice.

Ann is still very young to be receiving a lifetime achievement award but she has earned a lifetime of achievements. Congratulations, Ann. Well deserved.

All my best wishes,

Tina



1st row: Ruth Ross , Leonard Gillman, Reba Gillman
 2nd row: Ken Ross, Ann Watkins, Tom Banchoff, Martha Siegel, Bill Watkins, Tina Straley,
 Deborah Haimo

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 May 29, 2015

Dear Ann,

Congratulations on this much deserved recognition! You have done more than anyone I know to promote activity at the interface of mathematics and statistics education. Even though this is a CAUSE Lifetime Achievement Award, I'm certain you are not finished with achieving!

With my best wishes,

Ron Graham
 Past-President, MAA

Dear Ann,

Congratulations on receiving the **USCOTS Lifetime Achievement Award!**

It was my pleasure to have worked with you on the Advanced Placement program in statistics. You have without a doubt been one of the cornerstones of that program from its inception, throughout the formative stages in the 1990s and early 2000s, and since that time. The project was very fortunate to have benefitted from your extensive knowledge and expertise on other statistics projects (such as the Quantitative Literacy series) in the early years of AP when the content and performance expectations for the statistics examination were being defined, drafted, and reviewed. Having the perspectives of strong resources at the university level such as yourself at that time to help make those important connections between K-12 statistics education and the fledgling AP statistics initiative and to assist in shaping and guiding the direction of AP statistics was invaluable. Your willingness to assume the responsibility of Chair of the AP Statistics Test Development Committee during a time when many of the details (such as what an investigative task on the exam looked like) were still evolving was only one of many examples of the ways in which you contributed to the success and growth that AP Statistics has enjoyed over the years.

I cannot conclude this note without also mentioning your presence and dedication to the many AP readings, including and since that first one in 1997. As one of the early and ongoing members of the leadership team, you have helped to positively impact the grading of tens of thousands of AP exams through your service as an AP table leader, question leader, and exam leader. Ongoing involvement, consistency in expectations for students, and depth of expertise by individuals such as yourself have helped to ensure a high quality experience for all AP Statistics students.

Thank you for everything that you have done for AP and I wish you all the best.

Jeff



Jeff Witmer

Dear Ann:

Hearty congratulations on the **CAUSE Lifetime Achievement Award!** There is so much to say about your career that I don't know where to start, other than to say that you certainly deserve this recognition. Few have done as much to further statistics education as you have done and none have done it with your diplomacy – an art that eludes me. I applaud your ability to bring statisticians and mathematicians together.

I will always remember meeting you at one of Jerry Moreno's QL workshops in Cleveland many years ago. You were already established as a leading figure in statistics education, with a reputation that would be burnished by your contributions to AP statistics and many other projects over the years.

It was a privilege that I later got to work with you, Dick, and Mrudulla, on Activity Based Statistics. Your creativity and professionalism have been an inspiration to me, and I'm sure the same is true for many others in the statistics profession.

With warm good wishes and deep admiration,

Jeff

Martha Siegel

Ann,

I am thrilled that you are being honored with the CAUSE/USCOTS Lifetime Achievement Award in Statistics Education. It has been my honor to have worked with you for many years in the MAA, where you have demonstrated your ability to lead, to persuade, and to promote in the area of statistics education. I must say that you and Bill gave me the courage to agree to take on the role of Editor of *Mathematics Magazine*. And serving on the MAA Board of Governors with you always provided me with a partner on many issues. I have learned so much from you. Certainly my own teaching of statistics and my interest in reform in the teaching of collegiate statistics goes back to the many conversations we have had on the subject. I know that a "Lifetime" award makes it seem as if you are no longer going to contribute! But I'll bet that will be far from the truth. I look to you for fresh ideas and innovative practices in statistics education at the undergraduate level. And I look forward to our continued friendship.

My best wishes are always with you, Bill, and your daughters. It's been a delight to have such wonderful professional (and personal) buddies.

Martha

Dear Ann,

You are one of my heroes! Thank you for taking me under your wings many years ago and encouraging me to continue working in the field of statistics education. You have always been there as a mentor and a friend. You are the best Ann and no one is more deserving of this lifetime achievement award than you!

Georgia Chris

Chris Franklin



Dear Ann,

CONGRATULATIONS on receiving the **CAUSE Lifetime Achievement Award!** You are well-deserving of this recognition, and I'm delighted to hear of it.

I first became aware of your contributions to statistics education when I bought the Quantitative Literacy Series published by Dale Seymour Publications many years ago. The book you co-authored, *Exploring Data*, was my standby for in-class exercises in introductory statistics classes for many years. A few years after I discovered your book, I had the privilege of working with you on the AP Statistics committee, and I've enjoyed seeing you at statistics events ever since.

Best regards,

Katherine

Dear Ann,

Well, rumor is out that you are to receive the Lifetime Achievement Award from CAUSE. That's great news—something to add to your long list of honors and prestigious assignments. The latter, though, probably involve lots of work. I trust this award will mean only prestige, respect, widespread recognition, a grand certificate, a banquet, and, dare one say it?, something financial?

I don't see you often these days since I gave up going to meetings and won't make the great centennial celebration in Washington in August—spending part of the summer near a swamp called the Potomac lacks appeal. But I have always remembered the very nice afternoon we spent in that circular bar at the Willard Hotel, as we were plotting the future of the MAA. I wish you were back in charge of the Association—they could use some wisdom and good advice!

Again, congratulations, Ann. I'll add your name to the list of dignitaries I have known.

Jerry

MACALESTER COLLEGE



David M. Bressoud
Department of Math, Stat, and Comp Sci
Macalester College
1600 Grand Avenue
Saint Paul, MN 55105
bressoud@macalester.edu

May 26, 2015

Dear Ann,

I wish to share my congratulations on this well-deserved honor, the Lifetime Achievement Award from CAUSE.

I know how tirelessly you've worked on issues of undergraduate education both in statistics and more generally for all of the mathematical sciences. I appreciate your leadership of MAA. I'm glad I had the chance to work with you as the 2004 CUPM Curriculum Guide was assembled. You had a lot of great advice for the writing team, and my only regret is that we weren't able to do what you asked, tying those recommendations directly to research findings.

I've always admired your commitment to service. I hope that you are able to bask in this honor and enjoy it.

Sincerely,

David M. Bressoud
DeWitt Wallace Professor of Mathematics



Dear Ann,

Hearty Congratulations on this well-deserved Lifetime Achievement Award from the Consortium for the Advancement of Statistics Education. You have done such impressive things in both the mathematics and the statistical education communities; it's stunning to consider how much you've accomplished. Directing a national math organization, working on the cutting edge of statistics education, being an effective bridge between the two, and never breaking a sweat. We both remember well your term as MAA President, as we were editing *Math Horizons* at the time. You handled your responsibilities with such grace and aplomb.

Although you're receiving an award for lifetime achievement, and it's been a full lifetime's worth, please don't consider yourself done yet; you're too important to both of our communities. And, we like having you around too much.

We look forward to seeing you at the Centennial MathFest, and raising a glass in your honor.

With great affection,

A handwritten signature in black ink that reads 'Deanna + Steve'.

Deanna and Steve



The Legendary Mathematical Bridge in Cambridge.

There is a bridge in Cambridge that connects the “old” and “new” parts of Queens College. Year after year it does the heavy lifting of taking mathematicians, whose comfort zone is on one side of the bridge, to engage with the disciplines on the other. It has done so with unmatched charm and grace. But this bridge is legendary for much more than this heroic effort. Without lecturing, this bridge provides an activity-based approach to learning some beautiful mathematical concepts. Tens of thousands of students have pondered the elegant ideas that arise from noting how the arch is formed by setting long straight timbers at radial tangents to the soffit. Thousands of faculty have seen the benefit of using real illustrations like those the bridge provides to actively engage students in their learning.

Dennis Pearl

Thank you Ann for being the bridge that joins the statistics education and mathematics communities and teaching us all so much.





The CAUSE/USCOTS Lifetime Achievement Award in statistics education is a biennial award presented at the U.S. Conference On Teaching Statistics to an individual who, over an extended period of time, has made lasting contributions with broad impact to the field of statistics education.

The award committee is made up of the Director of CAUSE, the Chair of the CAUSE Board of Directors, the Chair of the USCOTS Program Committee, and selected past winners. The 2015 committee (Dennis Pearl, Jessica Utts, Allan Rossman, Chris Franklin, Joan Garfield, and Roxy Peck) presented the award to Ann Watkins on Friday May 29th, 2015 in State College, Pennsylvania.