

December 31, 2010

Dear Dennis and committee members,

Over the past 30 years, no statistics educator has had a more substantial impact on the teaching of statistics than Dick Scheaffer, whom we nominate for the 2011 USCOTS Lifetime Achievement Award. In the following paragraphs we provide a glimpse of Dick's innumerable contributions, organized in four main areas: undergraduate curriculum, Advanced Placement (AP) Statistics, K-12 curriculum, and professional leadership.

### **1. Undergraduate curriculum:**

Dick is the author or co-author of many important and widely used textbooks.

- *Introduction to Probability and its Applications* (3rd ed.)
- *Probability and Statistics for Engineers* (5th ed.)
- *Mathematical Statistics with Applications* (7th ed.)
- *Elementary Survey Sampling* (5th ed.)
- *Statistics in Action* (2nd ed.)
- *Activity-Based Statistics* (2nd ed.)

This extensive list testifies to the breadth of Dick's expertise and impact on the undergraduate curriculum. The last of these, *Activity-Based Statistics*, deserves special mention, because it resulted from an NSF-funded curriculum development project for which Dick served as Principal Investigator. This project has had an enormous influence on the willingness and ability of introductory statistics teachers to incorporate student activities into their teaching. In addition to writing the book *Activity-Based Statistics*, Dick and his collaborators wrote articles and presented many workshops to assist faculty implement activity-based pedagogy in their courses.

### **2. Advanced Placement (AP) Statistics:**

As impressive and extensive as Dick's influence on the undergraduate statistics curriculum, Dick has actually had an even larger influence on the K-12 curriculum. One illustration of this is the AP Statistics program, which Dick championed from the outset in the late 1980's and early 1990's. Creating an AP course in Statistics presented an enormous challenge, one aspect of which required bringing together high school and college faculty to agree on a common syllabus (note that there still does not exist a uniform introductory college statistics course like for example, Calculus 1 and 2). Dick tackled this challenge masterfully, leading the development of a rigorous AP Statistics curriculum that, quite frankly, is a model to which most college courses can only aspire. Along with playing the pivotal role in creating this program, Dick served as the first Chief Faculty Consultant, meaning that he was responsible for developing the procedures and rubrics by which AP Statistics exams are graded. The first administration of this exam in 1997 involved about 7500 exams, a number which grew at a consistent and remarkable rate to more than 130,000 by the year 2010. The AP Statistics program has had a profound effect not only on high schools around the country but also for our entire profession, as it has introduced hundreds of thousands of high school students to our discipline. Many colleges and universities with undergraduate statistics majors are experiencing an increase in enrollment due in large measure to the success of AP Statistics. Our two universities are benefitting from AP Statistics and the positive impact on our Statistics departments. While many people deserve credit for the growth and popularity of this program, none deserves more credit than Dick.

### **3. K-12 curriculum:**

As important and impressive as Dick's contributions to the AP Statistics program are, he has made even more substantial contributions to the rest of the K-12 curriculum. Since the 1970's, Dick has been

a leader in pushing for more emphasis on data and chance in the K-12 mathematics curriculum. He was a primary developer of the ASA's *Quantitative Literacy* project, which led to an emphasis on data analysis in the NCTM standards for K-12 mathematics curriculum. Dick was a primary developer of another NSF-funded project, the *Data Driven Mathematics* (DDM) series. Both the QL and DDM books are housed at the American Statistical Association (ASA), with the Joint ASA-NCTM committee overseeing and advocating the incorporation of these materials in the K-12 curriculum. A more recent project for Dick was serving as one of seven writers on the ASA sponsored *Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report: A Pre-K-12 Curriculum Framework*. This document, published in 2005 and 2007 (with revisions) has greatly influenced the statistics component of recent important national policy documents such *Mathematics and Statistics College Board Standards for College Success* (2007), the NCTM Document *Focus on High School Mathematics* (2009), and most recently, the *Common Core Standards* (2010). Dick has continued his K-12 efforts by serving as the primary statistics advisor and writer for the Common Core Standards. Through the years, he has written many influential articles on the importance of developing a quantitatively literate society, and he has been a tireless advocate for statistics education on countless panels and committees and commissions.

#### **4. Professional leadership:**

Dick served as President of the American Statistical Association in 2001, focusing attention of our profession on the importance of statistics education, particularly at the K-12 level. Dick created an infrastructure surrounding K-16 education which has helped maintain statistics education as one of ASA's top priorities. Dick's leadership has played a key role in many, perhaps most, of the important developments in statistics education over the past 20 years. He has given extremely generously of his time and talent to a large number of worthy projects, including the creation of CAUSE, the Consortium for the Advancement of Undergraduate Statistics Education.

In preparing this nomination, we were reminded of comments expressed by George Cobb's presentation at the first USCOTS in 2005. George said:

Dick's leadership is of a stealth variety: his radicalism tends to fly beneath your radar. He is invariably unassuming and friendly, never preachy. He presents radical ideas in the modest spirit of 'Here's something neat that you might want to try.' I'm convinced that this style of Dick's has had a lot to do with why it is that so many positive and important changes have been made in the way we teach statistics, without any of the divisiveness or rancor that has sometimes been part of the reform of introductory calculus, a rancor that has much too often been part of the attempts to reform the K-12 mathematics curriculum.

We agree completely with George's keen assessment of Dick's leadership and impact. For all of these reasons, we'd like to take this occasion to thank Dick for all he's taught us, for the inspiration he has provided us, and for the lifetime passion and dedication he's given to growing the field of statistics education.

Thank you very much for considering our nomination of Dick Scheaffer for the 2011 USCOTS Lifetime Achievement Award.

-- Christine Franklin and Allan Rossman

January 4, 2011

To the Chair and Members of the USCOTS Lifetime Achievement Award Selection Committee:

I am writing to you to support the nomination of Dick Scheaffer for the USCOTS 2011 Lifetime Achievement Award.

As a lead program administrator and assessment specialist at Educational Testing Service, I had the pleasure of working with Dick through the 1990s and occasionally since that time on the College Board's Advanced Placement® (AP®) examinations in Statistics. Dick played an instrumental role in the conceptualization of the AP Statistics course and examination frameworks, as well as in the initial designs of the course and examination. His vision, foresight, and leadership guided the work of the AP Statistics Steering Committee from 1990 to 1993 and subsequently the work of the first AP Statistics Test Development Committee from 1993 to 1998. During that time, Dick laid the groundwork for a forward-looking course and examination that today still retain the philosophy and spirit that were put into place then. Dick also assumed the position of the first chief reader in 1997 and 1998 for the centralized scoring of the examinations, and with it the daunting task of defining the initial performance expectations for students on the examinations. His work in that area established the standard for exam scoring in subsequent years.

Dick's influence in the AP community has been substantial and as testament to this, one need look no further than the approximately one million high school students who have completed AP Statistics examinations since their introduction in 1997. Certainly, as a result of Dick's tireless efforts in promoting the need for an AP course to the College Board long before the course and exam were introduced and then working during the 1990s to ensure a successful launch of the course and exams, many high school students have had the opportunity to experience and appreciate the study of introductory college level statistics.

While this letter focuses on only one of Dick's many accomplishments and contributions to the field, his association with and achievements in AP have impacted so positively the statistics education of high school students and their instructors that I wanted to be sure that the Committee had this information as his nomination is considered for this well-deserved award.

Yours truly,

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