Understanding and Reasoning about Statistics:  
A Most Important Educational Gift to our Students and Citizens

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Abstract

For the past several decades, statistical reasoning has grown enormously in its importance as an area of quantitative literacy for people all over the world. As citizens and consumers, we need to be equipped to distill, understand and critique the information in data and graphs with which we are deluged on a daily basis. Organizations such as the American Statistical Association (ASA), the International Statistics Institute (ISI), and the National Council of Teachers of Mathematics (NCTM) publish research and teaching articles on the learning of statistics and probability. Both ASA and NCTM have developed standards and recommendations for the teaching and learning of statistics at elementary and secondary school levels, and ASA has developed statistics recommendations for college and university teaching. In this session we will: i) Reflect on some of the recent recommendations for the inclusion of statistics in the education of all our students; ii) Consider some of the research findings on the how students reason about critical statistical concepts, and, iii) Suggest some recommendations for the teaching and learning of statistics.