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Exploring the Law of Large Numbers and Sampling Distributions through the Egg Roulette Game and Simulations

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1:00 pm in Derrick Hall 238
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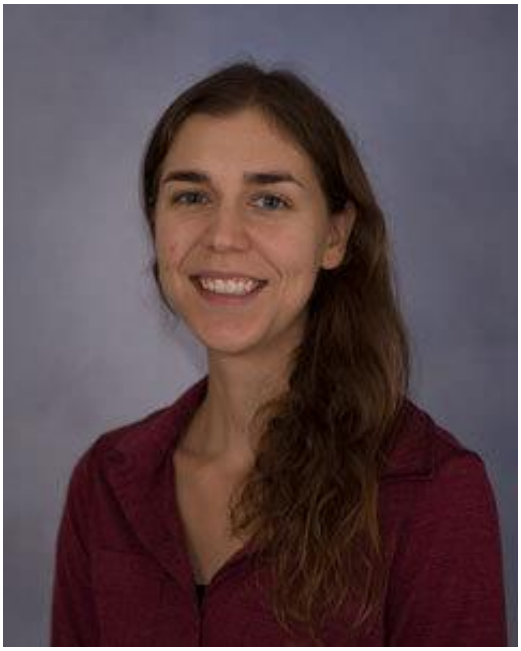
Abstract: Sampling Distributions and the Law of Large Numbers are key concepts within an Introductory Statistics course, yet they are difficult for students to grasp. In this talk, I will share a lesson that uses a probability game and computer simulations to explore these topics.
The main goals of this lesson are: (1) to understand that a theoretical probability can be estimated using the law of large numbers, (2) recognize conditional probabilities, (3) construct and explore the variability of sampling distributions and CLT using randomization-based simulations.
This investigation follows the four components of statistical problem solving put forth in the *Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report*. The four components are: formulate a question, design and implement a plan to collect data, analyze the data, and interpret results in the context of the original question. This is a GAISE Level C activity.



Mrs. Walker received her M.S. in Mathematics from Texas State University - San Marcos. She is active in the field of statistics education and currently teaches undergraduate statistics and an honors section of statistics.