Title: “Come Together, Right Now, Over Mu: Bridging the Gap Between Theory and Practice in Statistical Pedagogy Across the Undergraduate Psychology Curriculum”

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Abstract

Recent recommendations for the teaching of undergraduate statistics in any field emphasize the need for students to become critical consumers of results presented in the popular media while also developing proficiency in the collection, presentation, analysis, and communication of their own data (GAISE, 2016). In addition, instructors should provide undergraduates the opportunity to grapple with the difference between practical vs. statistical significance, to evaluate the presentation of statistics in research and the media, and to apply appropriate statistics to the question posed (APA, 2023) and include coverage of concepts related to open science, the new statistics, and data ethics (Baumer et al., 2020; Cummings, 2014; Morling and Calin-Jageman, 2020). Though undergraduate psychology instructors may desire to build a curriculum that follows these recommendations, they often find themselves facing two immediate roadblocks: student disinterest and anxiety in the subject matter itself (Onwuegbuzie & Wilson, 2003) and a commitment to a pedagogy that mimics the statistics courses that they themselves took as an undergraduate (e.g. Sestir et al., 2021). How can we encourage students to invest in the course material so that we can meet our pedagogical goals? How can we structure our undergraduate psychology curriculum to optimize instruction to align with these suggestions? What would a course look like that focuses on statistical literacy rather than statistical computation? What are ways that we can reinforce statistical concepts in non-statistics psychology content courses? The purpose of this talk is to share an example of an undergraduate introduction to statistics course design that attempts to address the above recommendations. In addition, I will share some ideas for how to integrate and reinforce statistical literacy in non-statistics content courses. Finally, I will share some resources and examples that can support both statistics and non-statistics teachers.

Bio

Erin K. Freeman is an Associate Professor of Psychology at the University of Oklahoma, where she serves as the Master Teacher and Coordinator of Undergraduate Statistics. In this role, she works to create a curriculum focused on statistical literacy that meets current best practices and recommendations and aligns with current research on statistical pedagogy. As a teacher, she strives to make statistical thinking relevant and accessible to undergraduate students and to find ways to reinforce this thinking across their college career. She was awarded both the University of Oklahoma Dodge Family College of Arts and Sciences Holden Award in 2023 and The Longmire Prize for Teaching in 2022 in recognition of her teaching excellence. In addition, she has won multiple awards for some of her statistical literacy assignments. Along with working on the advancement and accessibility of statistical thinking, she is committed to helping other instructors grow in their teaching. To this end, she brought Teaching Squares to the University of Oklahoma and has led this program in conjunction with the Center for Faculty Excellence since 2023. Most recently, she was recognized as a DUET Faculty Fellow in which she entered a pedagogical partnership with an undergraduate student for a semester to develop and enhance her teaching.