# THE CHALLENGES OF IMPLEMENTING A RANDOMIZATION APPROACH TO INTRODUCTORY STATISTICS IN THE HIGH SCHOOL SETTING

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## INTRODUCTION

Over the past 25 years, there has been an increase in the amount of statistics found in the pre-k-12 education system (Franklin, Kader, Mewborn, Moreno, Peck, Perry, & Scheaffer, 2005). In an effort to support this development, Franklin et al. (2005) released the Guidelines for Assessment and Instruction in Statistics Education (GAISE) in which they called for active-learning pedagogies focusing on conceptual learning of core statistical concepts.

## THE RANDOMIZATION APPROACH IN THE HIGH SCHOOL SETTING

Randomization approaches to teaching statistics have shown promise in achieving these goals (Holcomb, Chance, Rossman, Tietjen, & Cobb, 2010; Tintle, VanderStoep, Holmes, Quisenberry, & Swanson, 2011; Tintle, Topliff, Vanderstoep, Holmes, & Swanson, 2012). Furthermore, Tintle et al. (2011) used the GAISE recommendations to create a curriculum that completely overhauls the lecture-based pedagogy typically used to teach introductory statistics to focus on the logic of statistical inference and of statistical investigations.

This paper describes an attempt to implement the randomization-based curriculum described by Tintle et al. (2011) in a high school setting. The ultimate goal was to enhance students' learning and retention of statistical concepts beyond what they would experience using traditional approaches. Initial results from this study will be examined including how this approach has sustained the engagement of the diverse student population at this high school. Also, student misconceptions in the randomization class will be compared to those in the traditional class. Potential reasons for these differences will be discussed. Finally, we will discuss the challenges faced during the implementation and the alignment of the curriculum goals with the state-mandated goals for the high school course.

## REFERENCES

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