RCTs in Education - Methods & Findings
June 9-11, 2026

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Course Description

You will learn how to plan, run, analyze, and interpret randomized field experiments in education. The course focuses on *research design* and *statistical analysis*. Students will learn the history, methodology, and theory of RCTs and write a proposal for a field experiment.

By the end of the class, you will have produced a detailed proposal (~10 pages) for a randomized trial. The proposal will include a short literature review, specific research questions, an analysis plan, proposed context and data sources, power calculations, and a project timeline.

Course Outline and Readings

Session 1

- The experimental ideal
- Potential outcomes framework
- Selection bias and how randomization addresses it

1. Glennerster, Rachel, and Kudzai Takavarasha. *Running Randomized Evaluations: A Practical Guide*. Princeton University Press, 2014. Chapter 2-3
2. Angrist, Joshua D., and Jörn-Steffen Pischke. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton university press, 2009. Chapters 1-2.
3. Krueger, Alan B. "Experimental Estimates of Education Production Functions." *The Quarterly Journal of Economics* 114:2 (1999): 497-532.

Session 2

- Treatment Effects – ATE, TOT, ITT, LATE
- Cluster RCTs – capturing spillovers

1. Bettinger, Eric P., and Brent J. Evans. "College guidance for all: A randomized experiment in pre-college advising." Journal of Policy Analysis and Management 38.3 (2019): 579-599.

Session 3

- When and how to randomize; at what level to randomize
- Types of randomization: simple, stratified, pairwise

1. Glennerster, Rachel, and Kudzai Takavarasha. *Running Randomized Evaluations: A Practical Guide*. Princeton University Press, 2014. Chapter 4 (4.1, 4.2, 4.3, 4.5, 4.6 pages 161-165).
2. Duflo, Esther, Pascaline Dupas, and Michael Kremer. "School governance, teacher incentives, and pupil–teacher ratios: Experimental evidence from Kenyan primary schools." *Journal of Public Economics* 123 (2015): 92-110.

Session 4

- Power and precision: power, sample size calculation, improving power
- Measuring outcomes

1. Glennerster, Rachel, and Kudzai Takavarasha. *Running Randomized Evaluations: A Practical Guide*. Princeton University Press, 2014. Chapter 5 (5.1 & 5.2) and Chapter 6 (6.1 & 6.4).
2. https://www.povertyactionlab.org/resource/power-calculations
3. Dynarski, Susan, et al. "Closing the gap: The effect of reducing complexity and uncertainty in college pricing on the choices of low-income students." *American Economic Review* 111.6 (2021): 1721-56.

Session 5

- Estimating treatment effects for individual and cluster RCTs
- Heterogeneity
- Multiple hypothesis testing
- Pre-analysis plans

1. Alan, Sule, Teodora Boneva, and Seda Ertac. "Ever failed, try again, succeed better: Results from a randomized educational intervention on grit." *The Quarterly Journal of Economics* 134.3 (2019): 1121-1162.
2. https://www.povertyactionlab.org/resource/data-analysis
3. Pre-analysis plan for Alan et. al (2019): https://www.socialscienceregistry.org/trials/3317

Session 6: Seminar

Susan Dynarski, "The Impact of Free Tuition Program Design on College Applications and Enrollment in the United States"

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https://www.socialscienceregistry.org/trials/1831/history/51066