

Mini-Course on Field Experiments in Education
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Course Overview: Research on the formation of human capital has been transformed by the rapid increase in the feasibility and prevalence of field experiments over the past two decades. Focusing on such experiments in developing countries, this course will provide a practical toolkit on design, implementation, measurement and data collection, analysis, and interpretation of field experiments in education. I will do this both conceptually, and by teaching papers that I consider to be exemplars of experimental research in education. The course is targeted at students, researchers, and practitioners and aims to summarize lessons learned, highlight key open questions for future research, and provide guidance on how to design and implement high-quality field experiments in education in a way that maximizes what we learn from them.

Topics by Lecture and Readings for each Lecture

The following Handbook Chapters are required reading prior to the course. Readings with an (*) should be read in advance before class and I will call on students with questions from these papers as part of the discussion. Other readings will be discussed briefly in class.

Duflo, Esther, Rachel Glennerster, and Michael Kremer: "Using Randomization in Development Economics Research: A Toolkit" in *Handbook of Development Economics*, Vol. 4, 2007 [**Toolkit**]

Karthik Muralidharan "Field Experiments in Education in Developing Countries" in *Handbook of Field Experiments*, Vol. 2, 2017 [**FEEDC**]

Glewwe, Paul and Muralidharan, Karthik: "Improving School Education Outcomes in Developing Countries: Evidence, Knowledge Gaps, and Policy Implications" in *Handbook of Economics of Education*, Vol. 5, 2016 [**SEDC**]

Lectures 1 and 2: Background and key tools for conducting field experiments

(*) FEEDC – Section 2

(*) Toolkit – Full Chapter

Lecture 3: Walk-through of an experiment from start to finish

(*) Muralidharan, K., & Sundararaman, V. (2011). Teacher performance pay: Experimental evidence from India. *The journal of political economy*, 119, 39-77. doi:10.1086/659655

Lecture 4: Demand side interventions

(*) Jensen, R. (2010). The (perceived) returns to education and the demand for schooling. *The Quarterly Journal of Economics*, 125, 515-548. doi:10.1162/qjec.2010.125.2.515

(*) Jensen, R. (2012). Do labor market opportunities affect young women's work and family decisions? Experimental evidence from India. *The Quarterly Journal of Economics*, 127, 753–792. doi:10.1093/qje/qjs002

(*) Andrabi, T., Das, J., & Khwaja, A. I. (2017). “Report cards: The impact of providing school and child test scores on educational markets.” *American Economic Review*, 107(6), 1535-1563.

Dizon-Ross, R. (2016). *Parents' perceptions and children's education: Experimental evidence from Malawi*. Unpublished manuscript. University of Chicago.

Kremer, M., Miguel, E., & Thornton, R. (2009). Incentives to learn. *The Review of Economics and Statistics*, 91, 437-456. doi:10.1162/rest.91.3.437

Blimpo, M. P. (2014). Team incentives for education in developing countries: A randomized field experiment in Benin. *American Economic Journal: Applied Economics*, 6(4), 90-109. doi:10.1257/app.6.4.90

Lecture 5: School and Student Inputs

(*) Miguel, E., & Kremer, M. (2004). Worms: Identifying impacts on education and health in the presence of treatment externalities. *Econometrica*, 72, 159-217. doi:10.1111/j.1468-0262.2004.00481.x

(*) Das, J., Dercon, S., Habyarimana, J., Krishnan, P., Muralidharan, K., & Sundararaman, V. (2013). School inputs, household substitution, and test scores. *American Economic Journal: Applied Economics*, 5, 29-57. doi:10.1257/app.5.2.29

(*) de Ree, J., Muralidharan, K., Pradhan, M., & Rogers, F. H. (2018). Double for nothing? Experimental evidence on an unconditional teacher salary increase in Indonesia. *Quarterly Journal of Economics*, 133 (2), 993-1039

(*) Mbiti, I., Muralidharan, K., Romero, M., Schipper, Y., Manda, C., & Rajani, R. (2016). *Inputs, incentives, and complementarities in education: Experimental evidence from Tanzania*. NBER Working Paper 24876

Glewwe, P., Kremer, M., & Moulin, S. (2009). Many children left behind? Textbooks and test scores in Kenya. *American Economic Journal: Applied Economics*, 1, 112-135. doi:10.1257/app.1.1.112

Beuermann, D. W., Cristia, J. P., Cruz-Aguayo, Y., Cueto, S., & Malamud, O. (2015). Home computers and child outcomes: Short-term impacts from a randomized experiment in Peru. *American Economic Journal: Applied Economics*, 7(2), 53-80.

Lecture 6: Pedagogy

(*) Banerjee, A. V., Cole, S., Duflo, E., & Linden, L. (2007). Remedying education: Evidence from two randomized experiments in India. *Quarterly Journal of Economics*, 122, 1235-1264. doi:10.1162/qjec.122.3.1235

(*) Duflo, E., Dupas, P., & Kremer, M. (2011). Peer effects, teacher incentives, and the impact of tracking: Evidence from a randomized evaluation in Kenya. *The American Economic Review*, 101, 1739-1774. doi:10.1257/aer.101.5.1739

(*) Muralidharan, K., Singh, A., & Ganimian, A. J. (2017). *Disrupting Education: Experimental evidence on technology-aided instruction in India*. NBER Working Paper 22923

Banerjee, A.V., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukerji, S., Shotland, M., Walton, M., (2017). From Proof of Concept to Scalable Policies: Challenges and Solutions, with an Application. *Journal of Economic Perspectives*, 31(4), 73-102

Lecture 7: School Governance

(*) Duflo, E., Hanna, R., & Ryan, S. P. (2012). Incentives work: Getting teachers to come to school. *The American Economic Review*, 102, 1241-1278. doi:10.1257/aer.102.4.1241

(*) Muralidharan, K., & Sundararaman, V. (2015). The aggregate effect of school choice: Evidence from a two-stage experiment in India. *The Quarterly Journal of Economics*, 130(3), 1011-1066. doi:10.1093/qje/qjv013

Pradhan, M., Suryadarma, D., Beatty, A., Wong, M., Gaduh, A., Alisjahbana, A., & Artha, R. P. (2014). Improving educational quality through enhancing community participation: Results from a randomized field experiment in Indonesia. *American Economic Journal: Applied Economics*, 6, 105-126. doi:10.1257/app.6.2.105

Banerjee, A. V., Banerji, R., Duflo, E., Glennerster, R., & Khemani, S. (2010). Pitfalls of participatory programs: Evidence from a randomized evaluation in education in India. *American Economic Journal: Economic Policy*, 2, 1-30. doi:10.1257/pol.2.1.1

Glewwe, P., Ilias, N., & Kremer, M. (2010). Teacher incentives. *American Economic Journal: Applied Economics*, 2, 205-227. doi:10.1257/app.2.3.205

Muralidharan, K., & Sundararaman, V. (2013). *Contract teachers: Experimental evidence from India*. (Working Paper No. 19440). National Bureau of Economic Research (NBER), Cambridge, MA.

Lecture 8 and 9: Conducting High-Quality Experiments in Education

FEEDC – Sections 4 and 5

SEDC – Section 5 and 6

(*) Muralidharan, K., & Niehaus, P. (2017). Experimentation at Scale. *Journal of Economic Perspectives*, 31(4), 103-124