



The below are *examples of possible research proposals for the PIER Summit*:

**Example 1**

**Name of Tentative Research Project:**

*Predictors of college-readiness*

**Background/motivation:**

The Acme School System is in the midst of implementing its new strategic plan, which has as its mission to graduate 95% of students ready for college or career by 2020. A key part of the plan is to measure skills and attributes that are not typically captured by content-based standardized assessments. Specifically, the district is interested in learning more about attributes underlying the so-called 4 Cs: communication, collaboration, critical thinking, and creativity. To do so, the district has adopted the College and Work Readiness Assessment (CWRA+) to administer to juniors. The CWRA+ is a relatively new assessment that has been utilized by many high-performing and private high schools throughout the United States. In 2015-16, the CWRA+ was given to a random sample of juniors in half of the district's roughly 30 high schools ( $n \approx 2,000$ ). In 2016-17, it will be administered to a similar sample of juniors in all remaining high schools. The Acme School System hopes to explore the degree to which the assessment predicts performance in high school and college.

**What data do you have which could be used for this project?**

Yes, the CWRA has been administered to half of high schools in 2015-16. The other half of will be available in August 2017. We also have data on students' high school GPA (including individual course grades for those students) as well as college enrollment information from the National Student Clearinghouse.

**Example 2**

**Name of project and research question:**

*School choice in River City*

**Background/motivation:**

The River City school district implemented a new public school choice system in 2014-15. We would like to learn about the characteristics of the parents and neighborhoods who were most likely to choose a school outside their school zone.

**Area of interest:**

K-12, school choice

**What data do you have which could be used for this project?**

We have data on the choices submitted by parents, linked with parental address and student id's for the 2014-15 through 2016-17 school years. We also have data on school boundaries and neighborhood school assignments from 2013-14 through 2016-17.

**Example 3:**

**Name of Tentative Research Project and Research Question:**

*The impact of the Ready Teacher Toolbox: Regression discontinuity evidence from district*

**Background/Motivation:**

In 2016-17, the district launched the Ready Teacher Toolbox (a product of Curriculum Associates, Inc.) in all of its middle schools. The purpose of the Toolbox is to provide teachers with differentiated instructional materials to offer struggling students. Specifically, students earning a Level 1 or Level 2 on the 5-level End-of-Grade (EOG) Test automatically receive differentiated lessons through the Toolbox and are administered the i-Ready progress monitoring assessment three times throughout the year. The sample would include all middle school students who earned a Level 1 or 2 ( $n \approx 11,000$ ) on the summative assessment in the previous year. Because district calculates relative achievement levels, we can identify students who earned, for example, a Level 1.9 or Level 2.1 on the math or reading EOG Test. This granular relative achievement level allows us to sort relatively similar students into treatment and control groups below and above the Level 2 cutoff and estimate treatment effects using a regression discontinuity framework. The forcing variable is the relative achievement level on the EOG Test (ranging from 0.0-5.0 with a cutoff score at 2.0). Our outcome of interest is the summative EOG score, EOG level, as well as secondary outcomes such as student engagement.

One potential limitation of this proposal is the absence of implementation data. Take-up is strict in that all students who earn a Level 1 or 2 receive the offer to use the Toolbox during the entire school year. Middle school teachers have been instructed by the district central office to use the toolbox with all these at-risk students. However, we do not have a system that measures the implementation fidelity of this mandate. Thus, any causal estimates uncovered would be intent to-treat (ITT) only. ITT estimates in any direction, however, would provide valuable information to the district since implementation is required of all middle schools, setting up a cost effectiveness extension to the project.

Thus, our main research questions are: (1) How do students with access to the Ready Teacher Toolbox perform in reading and/or math compared with similar students who did not have access to the Toolbox and (2) What are the cost-effectiveness and/or benefit-cost ratios after one year of implementation?

**Area of Interest:**

K-12

**What data do you have which could be used for this project?**

We have data on the assignment variable, but not on students' or teacher's participation in the Ready Teacher Toolbox program. We will also have data on student performance on the end of year assessments in the spring of 2017 for all students, not just those who were assigned to Ready Teacher Toolbox.