

Title: The power of reading: How in-class pedagogy and out-of-class environment affect academic performance

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Abstract: Only one-third of U.S. elementary school students are proficient readers. This is despite spending over \$12,000 per student per year, a considerable amount accounting for nearly 30% of all state and 8% of all national expenditures. A large literature has developed to improve in class room inputs, focusing on pedagogy, optimal class size, mode of instruction, and teacher trainings among many other inputs. A similarly large literature explores how out-of-class room effects, such as parental wealth, nutrition, sleep, and pollution exposure affect learning and performance on exams. Using rich administrative data, we explore how both changes in pedagogy and pollution exposure affect short- and long-run scores on standardized reading exams. We find evidence that nudging school districts towards phonics based reading instruction improves test scores. We are currently exploring 1) how pollution exposure, which has been shown to independently affect the ability to learn, interacts with improved modes of instruction and 2) if the intervention had long-run impacts on college attendance, completion, and wages.