

Using a Longitudinal Study for a Local Evaluation of the *PCI Reading Program*

Jenna Zacamy, Megan Toby, Xiaohui Zheng
Empirical Education Inc.

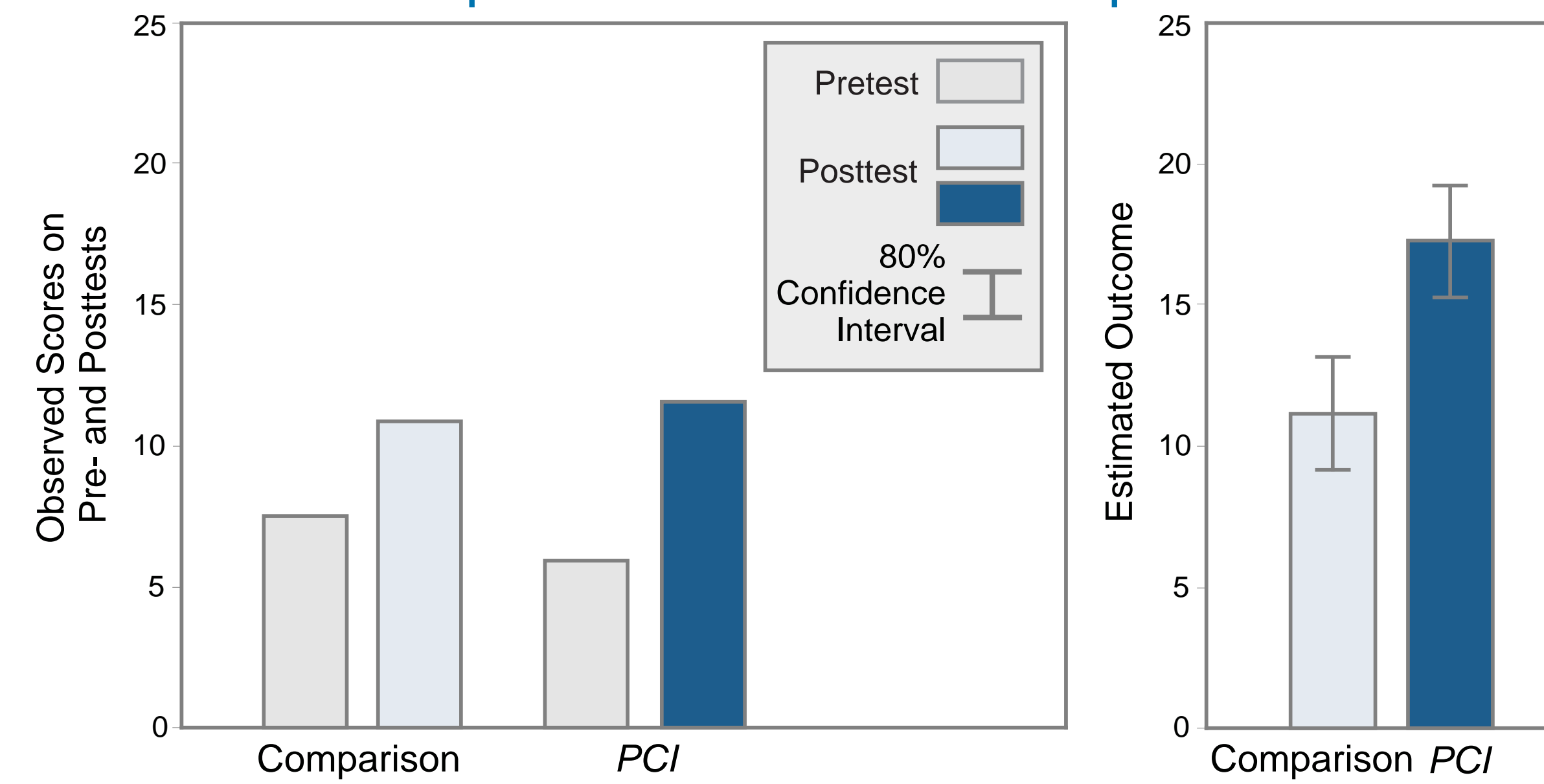


Introduction.

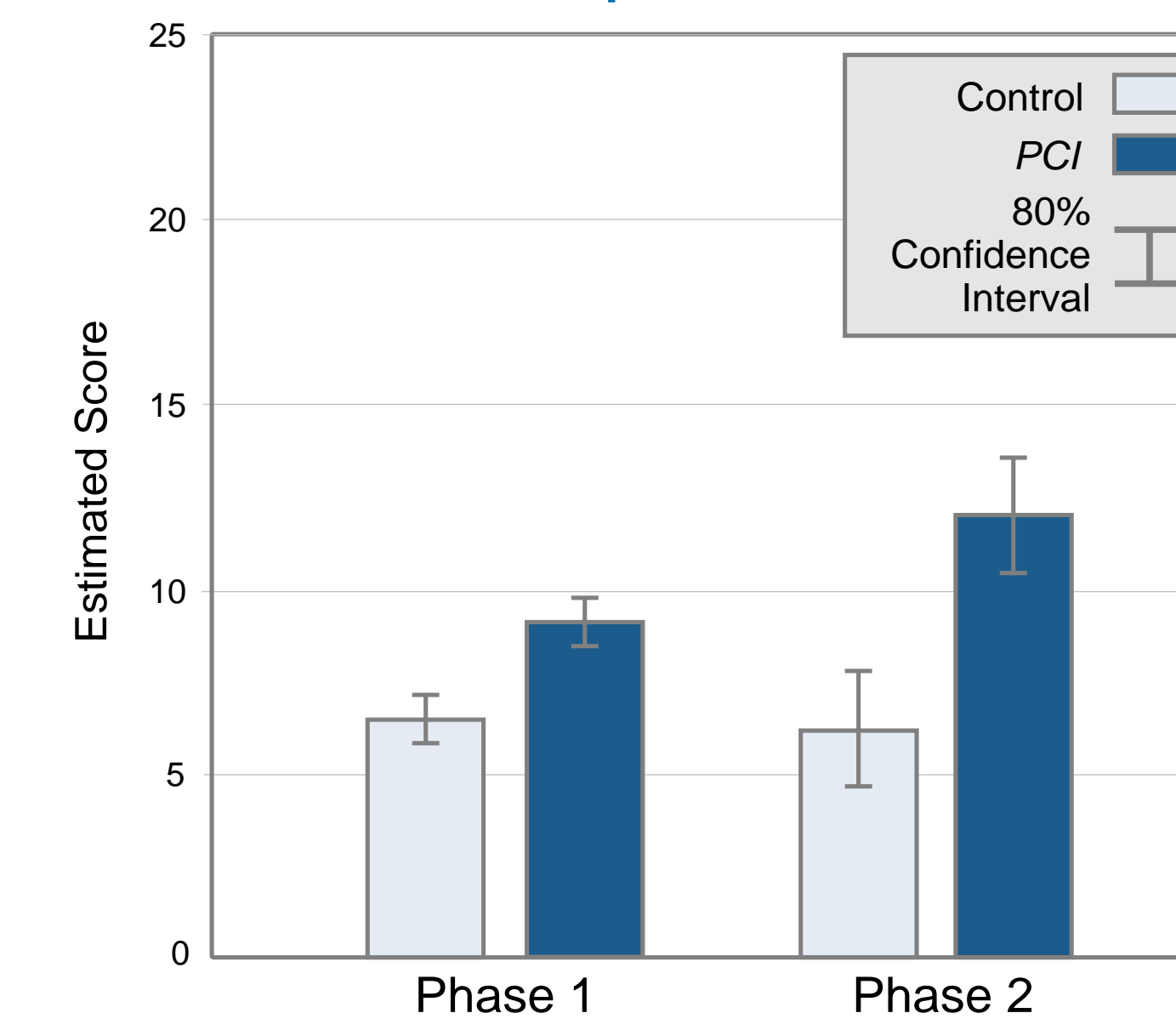
- PCI Education sought scientifically based evidence on the effectiveness of the *PCI Reading Program*—a sight word based program for students with developmental disabilities, autism, and significant learning disabilities.
- This poster presents the findings of Phase 2 of a five-year longitudinal study examining the efficacy of the *PCI Reading Program* as implemented in two Florida school districts with supported level students in grades 3-8 and their teachers.
- Phase 2 was built upon the Phase 1 randomized control trial and used a quasi-experimental and extra-experimental design to estimate the impact of *PCI* after two years.
- This efficacy study is designed to determine whether students who are exposed to *PCI* learn more of the specific sight words taught in the program than students who are not exposed to the program.

Main Impacts.

Quasi-Experimental 2-Year Impact



Extra-Experimental 2-Year Impact



Impact	QE 2-year Impact Analysis		EE 2-year Impact Analysis	
	Effect Size	p value	Effect Size	p value
Sight Word Outcome	0.89	.06	0.98	.02
Moderators (for Sight Word Outcome)	Estimate	p value	Estimate	p value
Sight Word Pretest	0.05	.85	-0.33	.57
Phonological Pretest	NA	NA	0.98	.30
Teachers Years of Teaching Special Education (>4 years)	6.56	.04	3.72	.49

Research Questions.

- What is the impact of *PCI* on student achievement in:
 - sight word recognition?
 - phonological awareness?
- Is the impact of *PCI* different for different kinds of students or teachers?
- How are reading programs implemented in participating classrooms?

Implementation Findings.

Teachers felt positive about *PCI* program. 95% would recommend Level One to others.

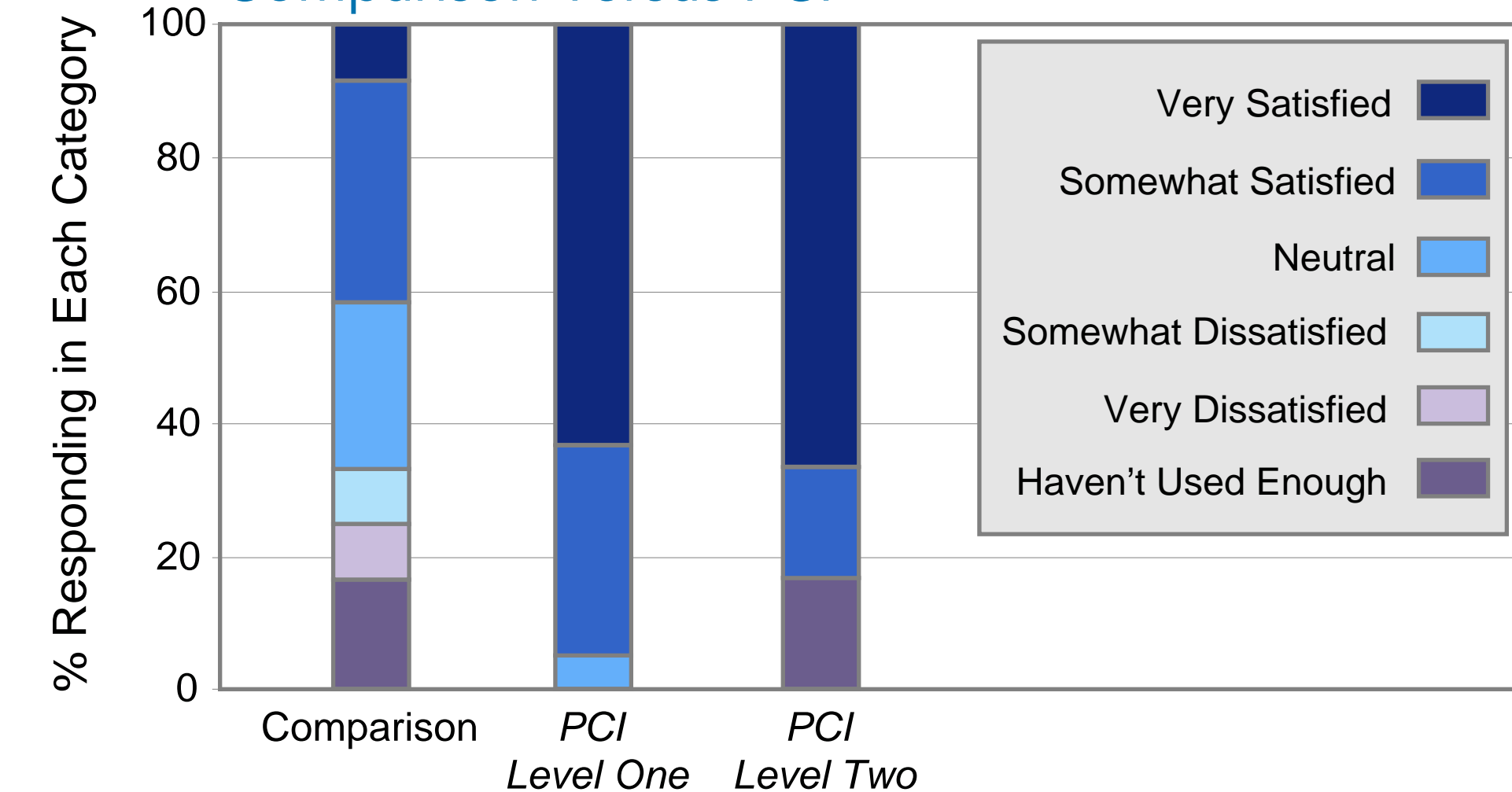
Successes

- Teacher satisfaction
- Student engagement
- Students learning to read books

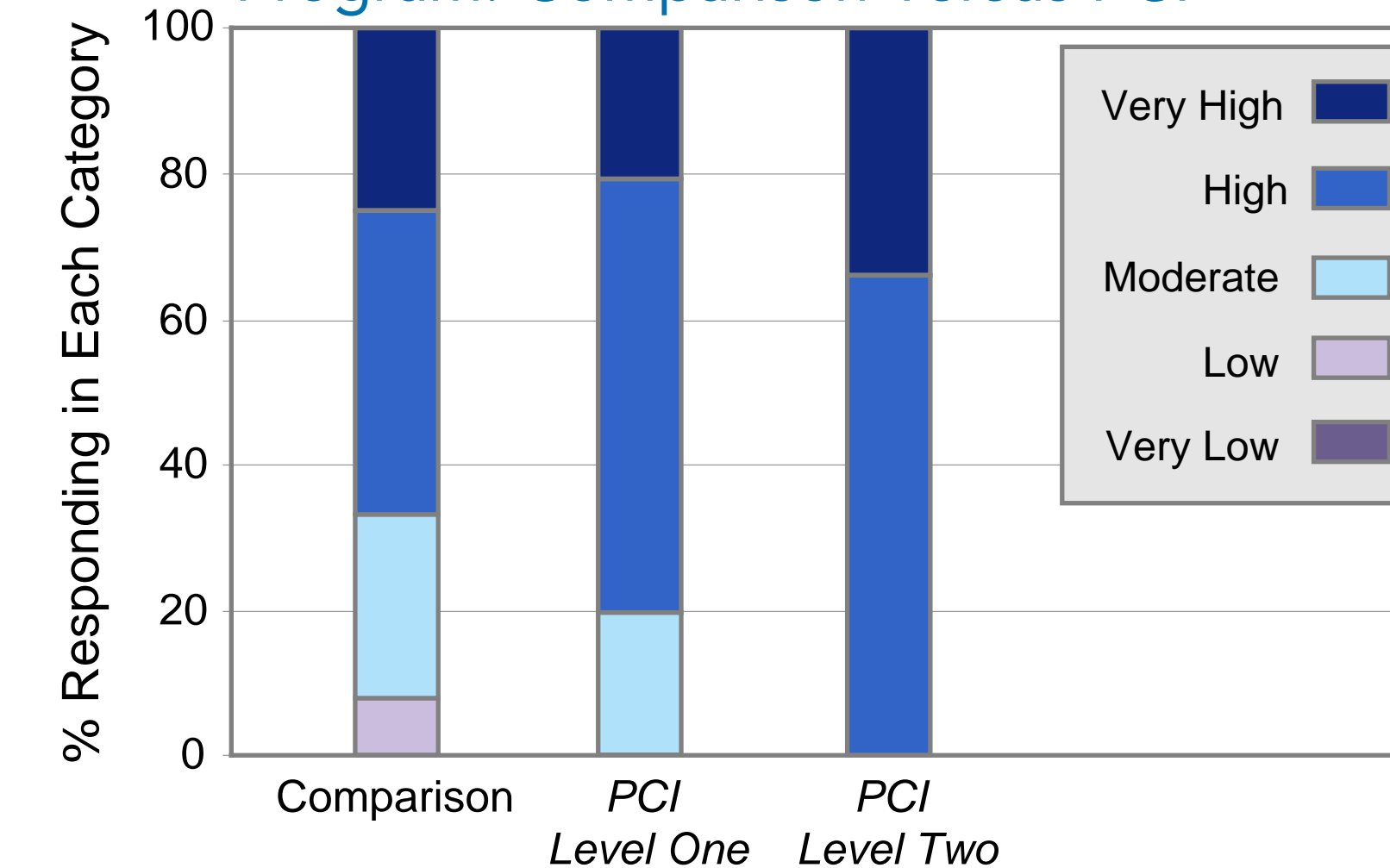
Challenges

- Instruction time
- Progress through program

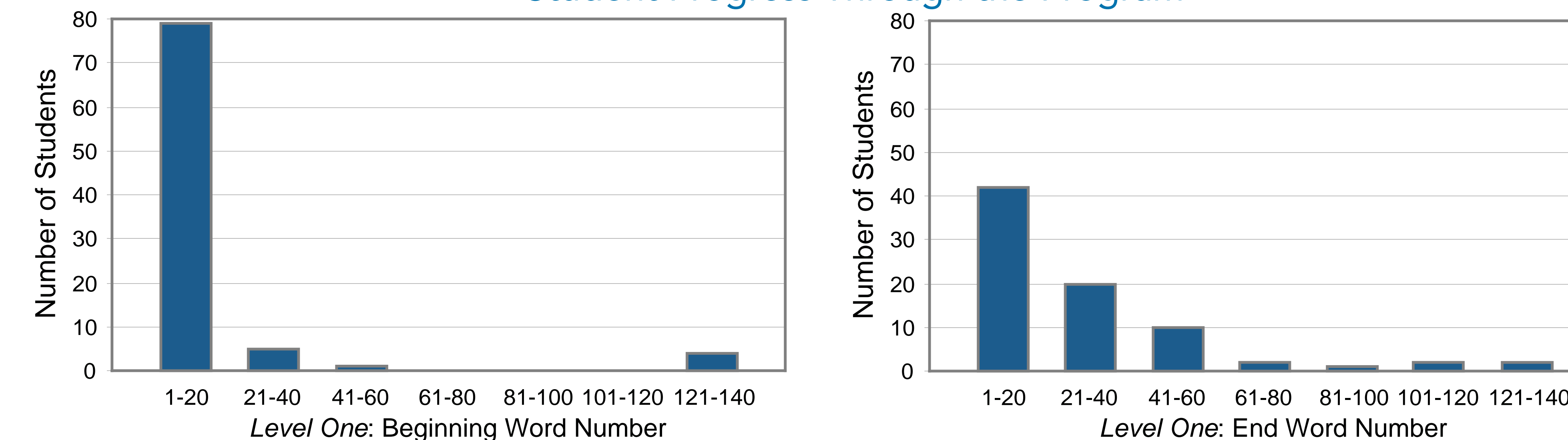
Teacher Opinion of Reading Program: Comparison Versus *PCI*



Level of Student Engagement of Reading Program: Comparison Versus *PCI*



Student Progress Through the Program



*Only six students progressed to *Level Two*.

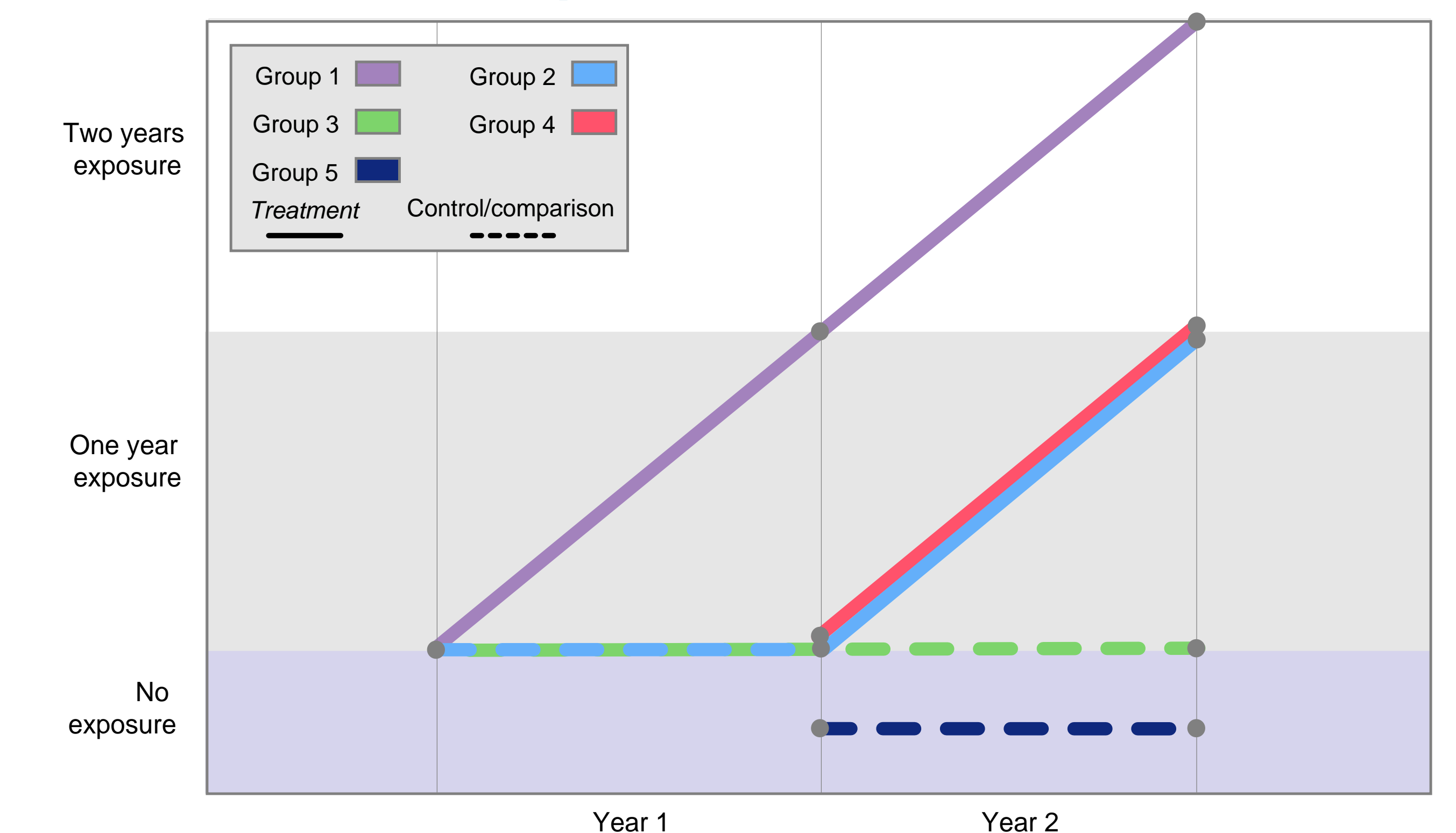
Intervention.

- A sight word based program designed to help non-readers become successful readers
- Mastery-based, individualized program so students can learn at their own pace; multi-sensory based so students can use cues and manipulatives
- Specifies a system of repetition, practice, errorless discrimination, controlled reading, and high-interest activities
- Bridging approach of three levels
 - Level One aims to teach students 140 sight words through visual discrimination.
 - Level Two aims to teach 140 additional words including commonly used inflectional endings, such as *-s* and *-ing*.
 - In Level Three (still in development) the 280 sight words are linked together by phonetic patterns to develop students' basic decoding strategies and word-attack skills.

Research Design.

- Methods
 - **Quasi-experimental.** Students in Group 1 are matched to students in Groups 3 and 5 and we compare the differences in performance.
 - **Extra-experimental.** We estimate the difference in performance between the randomized groups—Groups 1 and 2—after the first and second years, and combine the differences to estimate how the controls would have performed had they not joined the program. (Method attributable to Bell and Bradley 2008)
- Data Sources
 - Teacher and student demographics
 - Student pre- and post-intervention sight word and phonological test scores
 - Program progress monitoring data
 - Teacher online surveys, training and classroom observations, emails exchanges, and informal interviews
- Analysis
 - Multi-level analysis (HLM) was used to estimate the program impact and the moderating effect (subgroup analyses) of relevant variables.
 - The impact estimates were adjusted for imbalances in relevant student and teacher characteristics between the two groups.

Student Groups.



Conclusion/Discussion.

- The significantly large two-year impact found in both analytic approaches and high levels of teacher satisfaction with the program provides useful information for districts looking for a reading program for severely disabled students.
- As we continue our research of the *PCI Reading Program* in both districts over the next three years, we will examine why student progress is slower than expected.

References:
Bell, S. H., & Bradley, M. C. (2008, March). *Calculating long-run impacts in RCTs that release the control group into the intervention prior to the end of follow-up*. Paper presented in a paper discussion at the Annual Research Conference of the Society for Research on Educational Effectiveness, Crystal City, VA.
Zacamy, J., Zheng, X., Jaciw, A., Ma, B., & Zhao, Q. (2010, February). *The Efficacy of PCI Education's PCI Reading Program—Phase 2: A Report of a Comparison Group Study in Broward Public Schools and Miami-Dade County Public Schools*. (Empirical Education Rep. No. EEL_PCI2-07100-FR1-Y1-O-1). Palo Alto, CA: Empirical Education Inc.