**Empirical Education®**

RESEARCH SUMMARY

The Efficacy of PCI's Reading Program – Level One: *A Report of a Randomized Experiment in Brevard Public Schools and Miami-Dade County Public Schools*

Introduction. PCI Education sought scientifically based evidence on the effectiveness of the *PCI Reading Program - Level One* for students with severe disabilities. During the 2007-2008 academic year, Empirical Education conducted a randomized control trial (RCT) in two Florida districts, Brevard and Miami-Dade County Public Schools. For this experimental study, we randomly assigned teachers to two groups: a group trained on and using the *PCI Reading Program - Level One* (*PCI* group) and a control group using their existing reading program. The specific question we addressed is whether students whose teachers were given the *PCI Reading Program - Level One* achieve higher sight word assessment scores in reading than students of teachers not having it. We were also interested in whether effects differed for specific subgroups of students: those who score low on the sight word or phonological pretests, those in lower or higher grades, and those whose teachers were more experienced in Special Education. PCI Education also asked us to investigate the level of implementation that could be achieved and the level of interest generated among the teachers. As an initial study of this program (Levels Two and Three are still in development) our goal was to determine whether or not it helps severely disabled students succeed in learning the specific skills on which it is focused. Because our outcome measure, sight word recognition, was closely aligned to the program (Level One is focused on sight words) we consider this an efficacy study in which we are examining whether the program achieves its stated goals rather than whether it makes a difference in more generally defined reading skills.

Findings. Despite attrition among students and teachers, the experiment was able to detect a very large impact: After one year, students in the *PCI* program had substantial success in learning sight words in comparison to students in the control group—equivalent to a 21 percentile point difference.

We accommodated students unable to name any words on the pretest by conducting separate tests for those scoring zero on the pretest and those scoring above zero, as we believed the composition of these groups could differ fundamentally. Within each group, we found a significant impact for the *PCI* program. Both unadjusted and adjusted analyses show high effect sizes (.55, .59) with small *p* values.
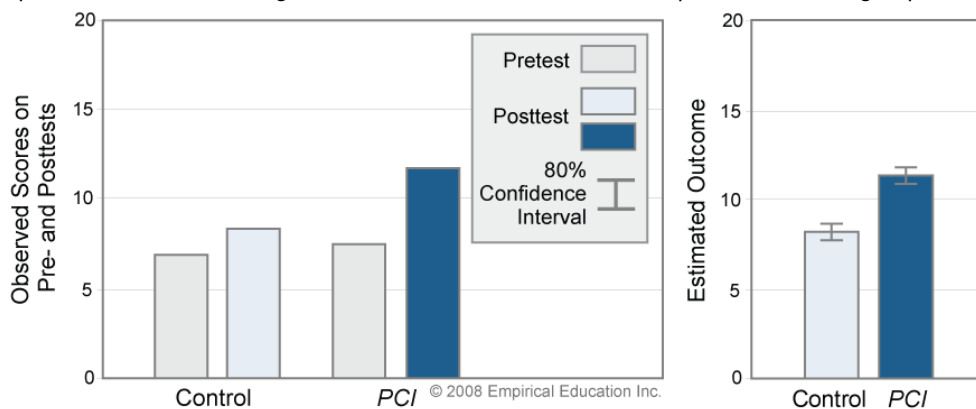
For Sight Word Assessment: Unadjusted Pre- and Posttest Means for Control and *PCI* (Left); Adjusted Means for Control and *PCI* (Right)

In examining moderating variables, we found the sight word pretest to not be significant in changing the impact of *PCI* on student outcomes. The Phonological Assessment had a small moderating effect; thus we can have some confidence that students starting with greater phonological skills benefit more from *PCI* than students scoring lower. We found no effect from the student's grade level. The small number of teachers with fewer than four years experience teaching Special Education prevented us from examining moderating effects of teacher experience.

Although teachers in the *PCI* group had all materials necessary for implementation, they tended to complete the minimum amount of reading instruction specified by the publisher. Because we do not know how much time

PCI instruction was supplemented with other reading materials, we were unable to compare minutes of reading instruction across the control and *PCI* groups. Still, our study shows that it takes longer for students to complete the *PCI Reading Program - Level One* than initially estimated by the publishers.

Design and Analysis. The design of our experiment was a group randomized trial. We used a coin toss to assign teachers in two Florida school districts (Brevard and Miami Dade County Schools) to use the *PCI* program or to continue using the various reading programs currently in place. We used paired randomization and a coin toss, to assign each of the 47 teachers initially involved in the experiment to the *PCI* and control conditions. The teachers gave a sight word test based on words used in the *PCI* program and words common to other programs both pre and post. Significant attrition of students occurred because of difficulty in obtaining parental consent. Information on implementation was gathered through online surveys, observations and teacher interviews. Multi-level analysis of covariance (hierarchical linear modeling) was used to estimate program impact and the moderating effect of relevant variables.

This initial experimental study provides evidence of the efficacy of the *PCI Reading Program*. The positive results for students and positive acceptance by the teachers is useful information for school districts looking for a reading program for severely disabled students. We consider our results preliminary because we tested only *Level One* and our achievement measure was limited to the specific goals of the program. We are continuing our research of the *PCI Reading Program* in both districts over the next four years in order to follow students through the second and third levels of *PCI*.

Overall Teacher Impressions. Qualitative data obtained from surveys, observations, and informal interviews showed very high levels of teacher satisfaction, as well as student engagement and enjoyment, with *PCI*. Teachers assigned to the *PCI* group for the purpose of this study plan to continue implementing the program in the future. While some teachers reported difficulty in finding time for the amount of individualized instruction necessary, opinions of the program itself were high. Teachers were excited to see their students retaining words they learned through the program and reading books.

To read the complete report, contact:

Empirical Education Inc.
www.empiricaleducation.com
425 Sherman Avenue, Suite 210
Palo Alto, CA 94306
(650) 328-1734