

RESEARCH SUMMARY

Effectiveness of Scott Foresman's *Links to Reading First* as an Intervention for Struggling Readers: A Report of an Experiment in Nazareth Area School District (PA)

We were asked to find out whether *Links for Reading First*, a supplemental teachers guide for the Scott Foresman Reading core elementary reading program, is an effective alternative to the regular teachers guide. *Links* supports a structured and explicit method for reading instruction aimed at struggling readers in elementary grades. We conducted an experiment during the 2004-2005 school year working with 21 teachers across grades 1 to 3. Our experiment provides evidence that *Links* is effective in improving fluency for students at the low end of reading proficiency scale.

Intervention. *Links for Reading First* is an enhancement of Scott Foresman Reading teacher guide that provides more explicit instruction and systematic practice than is found in the standard teachers guide. A set of booklets address each unit of the regular reading program. The booklets contain 5-day instructional plans that can be used instead of the 5-day planners in the regular textbook guide. The difference is that the *Links* plans incorporate more intensive, explicit teaching, additional teacher modeling, more student practice, systematic cumulative review, and scaffolded instruction in the critical areas.

Setting. Nazareth Area School District is a small (approximately 4,300 student) district with three elementary schools (K-5), one middle school and one high school. The student population is approximately 98% White with only about 8% classified as economically disadvantaged. The district had adopted the Scott Foresman Reading as its basal reading program prior to the availability of the *Links* product. The district recognizes that while performing quite well, there are still about 20% of the students who need additional help.

Research design. The research is a comparison of outcomes for groups of students taught using the *Links* program and similar students taught using the regular reading program. After pairing each teacher with the teacher who was most similar in terms of school, grade taught and years of experience, we used a coin toss to randomly assign one of the teacher volunteers to the pilot group and the other to the control group. The design includes two levels: the unit of random assignment is the teacher and the unit for the outcome data is the individual student. *Links* teachers identified focal students, generally their struggling readers, who would be taught using the *Links* materials. We selected focal students from the paired control classroom matched on pretest score and, where possible, gender. Thus, at the teacher level the design is a randomized experiment and at the student level it is a matched comparison quasi-experiment. The primary outcome measure was DIBELS test of oral fluency.

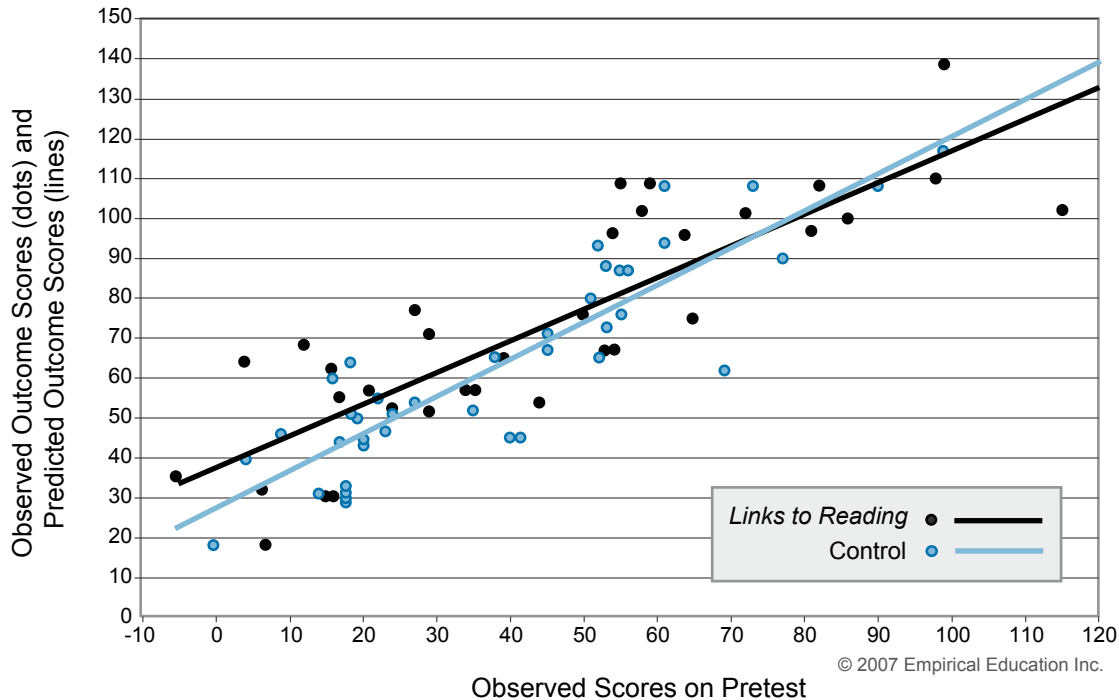
Participants. Ten *Links* teachers and eleven control teachers participated. Among them there were 89 students (an average of about 4 students in each class) identified as focal. Of the original set of 24 teachers, 3 decided not to participate: two 2nd grade teachers decided they could not devote the extra time required and one control teacher chose to implement the program and was dropped from the study. Thus, the pilot group was biased somewhat in having teachers willing to implement the program.

Implementation. In the *Links* classrooms, the students identified as in need of this additional help with reading generally met as a small group with the teacher. Each of the focal student was tested weekly, requiring considerable class time as well as preparation time. *Links* teachers were diligent in implementing the program but were unanimous in their complaint about the level of effort required.

Statistical analysis. We conducted four analyses, one for each of 2 outcome measures routinely conducted by the classroom teachers (one for the first graders, another for the 2nd and 3rd graders), one on the results of the state reading test for the 3rd graders only, and an analysis based on the DIBELS test of reading fluency given to all the focal students at the end of the year and using the same reading passage. In all cases, we constructed a mixed, two-level statistical model controlling measures taken at the beginning of the year. In the case of the main outcome, we included the interaction between the use of *Links* and the students incoming skill so that we could see whether the program may have worked better for students with lower reading levels than for others.

Results. The four analyses each had different results. For 1st grade, the effect was in the direction of *Links* being effective, but the statistical analysis did not provide any confidence in the result. For the test given in 2nd and 3rd grade, the effect was also in the direction of *Links* and the analysis provides reasonable assurance that the impact of *Links* was positive. The 3rd grade results on the state test were substantially negative. The analysis of the testing that applied to all the focal students showed that for the average student the effect of *Links* was positive. There is about a 15% probability that a difference this large would occur by chance.

The results for the three grades combined are presented here in a scatterplot.



Here, the horizontal axis represents our standardized pretest measure. The vertical axis represents the results on the DIBELS test of oral fluency (all students were tested with the same passage). Each dot then represents a student, distinguishing between *Links* students (dark) and control students (light). Superimposed on this scatterplot are two lines representing the model's prediction for student outcomes given a starting place along the horizontal-axis. The separation of the lines indicating the impact of *Links* is greater for the students initially scoring lower. For example, if we take the median student of the bottom quartile, the difference is about 14 words per minute. This provides some evidence that for the bottom half of the students identified as struggling, *Links* was an effective tool. For the top half, the differences are not distinguishable from zero.

Conclusion. Our study provides evidence for a positive impact of *Links for Reading First* as an alternative to the regular Scott Foresman Reading teacher's guide when used with younger students. With a small overall sample, and with teacher attrition, however, we have to be careful in our interpretation of the results. The attrition of teachers limits our ability to differentiate the impact of the program from the impact of dedicated teachers given any program. Clearly we have to be cautious about expecting good results if teachers are not enthusiastic and diligent. We believe that the most reasonable interpretation of these results is that *Links* is likely to be effective for struggling early readers when implemented by dedicated teachers.

To read the complete report, contact:

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