Reading, Reading Programs and Success in School

A Summary of the Studies on Reading and Educational Performance in Elementary Schools

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The effective use of reading programs to bridge the reading gap between advantaged and disadvantaged children is one of the most important pedagogical/policy issues in the field of primary education in the U.S. and other developed countries (National Reading Panel, 2000). It is believed that children who succeed in becoming fluent, strategic and joyful readers have much better chances in achieving success in both school and life.

Reading gaps need to be narrowed early in the schooling track (in elementary school). If not, reading gaps will widen over time as poor readers will tend to avoid reading and engage in less self-initiated reading than good readers (Chall, Jacobs, Baldwin, & Chall, 2009). Because this has become a well-recognized phenomenon, governments—local and national—and families and NGOs invest tremendous amounts of time, effort and financial resources to prevent reading difficulties during the early stages of education (Torgesen et al., 2006).

The literature is also making clear that it is during primary education that children go through critical transformations as readers (Griffin, Burns, Snow, & others, 1998). Children in primary education gradually develop the ability to decode and recognize key words, phrases and other language cues; elementary school-aged children need to consolidate and enhance their basic skills to become fluent and confident readers (Slavin et al., 2009). They need to build vocabulary. They need to develop cognitive approaches to texts.

If by age 10 (grades 3 or 4) children do not begin to develop these skills and abilities (decoding; recognition; language cues; vocabulary building; etc.), it can have long-term consequences. Scholars use the term “fourth-grade slump” to describe how reading gaps in the critical period of fourth grade underlie a deceleration in reading comprehension among children—an effect that can last a lifetime (Chall et al., 2009). It is therefore stressed in the literature that reading remediation is absolutely necessary in fourth-grade and beyond—particularly for low-income and minority children (Snow, 2002). Without remediation, the reading gap after grade 4 and beyond may enlarge quickly and disadvantaged kids likely will remain behind throughout their lives.
In addition to identifying critical periods for reading remediation, researchers have conducted basic research about how reading should be taught. The findings about how solutions are best created are highly consistent with the literature that studies the problems. Guidance from the National Reading Panel (2000) suggests that phonemic awareness, phonics, fluency, vocabulary and language comprehension are the five key components of scientifically-based reading instruction. Struggling readers especially need to increase their abilities in vocabulary and language comprehension (Deshler & Hock, 2007). Such studies have been influential in not only putting reading programs high on the priority list of educators but also in deciding the content of reading programs.

In an attempt to effectively raise the reading levels of children who are in primary school, different types of reading programs have been introduced in developed countries (Lonigan & Shanahan, 2009). Some programs consist of stand-alone reading curricula; other programs train teachers to change their instructional approaches to reading (Borman, Dowling, & Schneck, 2007; Reis, Eckert, McCoach, Jacobs, & Coyne, 2008; Van Keer & Verhaeghe, 2005). Reading curricula are typically built around exciting, appropriate and well-designed (in sequence) textbooks. The reading curricula are used in regular classes or during specially designated time slots at school. Teacher training programs are additionally intended to help teachers learn: a.) ways to help students interact more during reading activities; b.) how to motivate students to read; and c.) approaches to managing reading activities in the classroom.

Despite the prevalence of different types of reading programs in developed countries, there is little rigorous research on the effectiveness of reading programs on student reading outcomes in developing countries (Griffin et al., 1998; Lonigan & Shanahan, 2009). In other words, while there have been several large scale experimental studies on the effectiveness of reading programs in developed countries such as the United States (Mol & Bus, 2011), to the best of our knowledge, few, if any, such studies exist in the developing world.

[Note: REAP is currently launching an exhaustive literature review on Reading in China. We hope full review will be available in January 2015.]

Rigorous research on the effectiveness of reading programs (again almost solely in developed countries) shows mixed results. For example, programs that add phonics (a component believed to be crucial for developing reading skills) into traditional reading curricula have proven to be unsuccessful in improving children’s reading (Garet et al., 2008). By contrast, comprehensive reading curricula (introduced either during school or as a full supplemental program after school) have been found to have small to moderate positive effects (0.09 SD to 0.24 SD) on student reading achievement in developed countries (Borman et al., 2007; Reis et al., 2008; Resendez, Sridiharan, & Azin, 2006; Vaughan, Serido, & Wilhelm, 2006). Resendez, Sridiharan, & Azin (2006) find that reading programs have a relatively large impact on
vocabulary, which is one of the building blocks of reading confidence and enjoyment. Cooperative learning programs—in which students work in small groups to help one another in reading under the guidance of teacher instruction—also were found by experimentalists to have positive impacts (0.06 SD to 0.23 SD) on reading outcomes (Campbell & Brigman, 2005; Garet et al., 2008). In stepping back and assessing the overall evidence, the most effective reading programs combine a.) extensive professional development in reading instruction and b.) methods to maximize student engagement (Slavin et al., 2009).

[Note: far from having a negative effect, positive effects are found in studies that evaluate programs with comprehensive reading curricula.]

Reading activities outside of school (either an important component of reading programs or as part of home-based reading interventions) are also considered to be important predictors of reading achievement gains during primary school (Entwisle & others, 1997; Stanovich, 2000). Differences in access to reading materials at home explain differences in literacy between children from low-income and high-income families (Chin & Phillips, 2004). Researchers find that both access and the intrinsic motivation of children to read are essential to achieve reading gains (Allington et al., 2010; Mol & Bus, 2011). However, the existing literature that has used randomized experiments to study this issue has found mixed results on the effectiveness of home-based reading interventions. Program impacts range from negative (-0.14 SD) to positive (0.14 SD)—(Allington et al., 2010; Kim & Guryan, 2010; Kim & White, 2008). Little is known about what types of home-based reading programs work and in what contexts.

Studies suggest possible heterogeneous effects of (both school and home-based) reading programs. However, evidence on heterogeneous effects is mixed as well. Reading outcomes have been found to be similar among different types of schools (high versus low poverty) that introduce reforms in reading curricula and reading instruction (Slavin et al., 2009).¹ In contrast, a meta-analysis of summer reading programs has found that both school-based and home-based summer-time programs have larger effects for children from low-income families than from higher-income families (Kim & Quinn, 2013).² Finally, a randomized experiment found that a remedial reading program is more effective among lower grades: the program impact is significant for the third grade but it is not significant for the fifth grade on measures of reading accuracy, fluency and comprehension (Torgesen et al., 2006).

¹ Unfortunately, the evaluation methods used in these studies (e.g. matching) rely on strong assumptions and may lead to inaccurate (biased) conclusions.
² Observational studies show why it is that students from poor families may be behind in the first place. Poor families are less likely than non-poor families to provide books or spend time discussing/reading books with children to boost reading interest (Bradley, Corwyn, McAdoo, & García Coll, 2001; Chin & Phillips, 2004).
Unfortunately, there is a distinct lack of evidence on the spillovers of a reading program onto other subjects of study outside of reading. There have only been two studies that have measured whether there are spillover effects from reading programs. The first study evaluated a program focused on improving reading instruction (and increasing teaching accountability). They did not find the program improved math achievement (Wolff, Carneiro, & Lahire, 2013). Another study examined an intensive, short-term (31 days) reading program and found that it did not impact math and social studies achievement (Abeberese, Kumler, & Linden, 2011). Importantly, in neither case was there a negative spillover.

One final challenge facing researchers and policymakers is how to use reading programs to improve reading achievement not just in the short-term, but also in the long-term (Slavin et al., 2009). By synthesizing seven studies that adopt randomized experiments or matched treatment-control approaches, researchers have shown that the impacts measured six or more months after an intervention are generally much lower (around 0.3 SDs) than the effects measured immediately after the intervention. Abeberese, Kumler, & Linden (2011) also find that the program impact declined by 54 percent within three months after their reading program had ended. Abeberese et al. (2011) suggest several approaches that may help sustain the long-term impacts of reading programs. These approaches include providing teacher incentives, reminding teachers of the importance of reading by text messaging or conducting long-term periodic monitoring. Much more research is needed, however, to understand how to sustain the impact of reading programs over time.

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Summary/Conclusions

Lessons for Work on Reading in Developing Countries
Bullet Points

• In developed countries, reading is one of the most important pedagogical/policy issues.

• Reading gaps need to be narrowed early in the schooling track (primary school).

• Although rigorous research on the effectiveness of reading programs shows mixed results, the most effective reading programs seem to combine a.) extensive professional development in reading instruction and b.) methods to maximize student engagement.

• One challenge of reading is how to sustain the impact not just in the short-term, but also in the long-term. [Scholars proposed approaches such as providing teacher incentives, reminding teachers of the importance of reading by text messaging or conducting long-term periodic monitoring, but none of these have been tested and proven effective.

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• There is little rigorous research on reading in developing countries [our evaluation will be one of the first to do so]

• One of the greatest challenges, we believe, is to show whether reading programs have positive or negative spillovers on other subjects (outside of reading). This has NEVER been tested before.
References


Deshler, D. D., & Hock, M. F. (2007). Adolescent literacy: Where we are, where we need to go. Shaping Literacy Achievement: Research We Have, Research We Need, 98–128.


Garet, M. S., Cronen, S., Eaton, M., Kurki, A., Ludwig, M., Jones, W., … others. (2008). The Impact of Two Professional Development Interventions on Early Reading Instruction and Achievement. NCEE 2008-4030. National Center for


