

Kenya Primary Math and Reading (PRIMR) Initiative



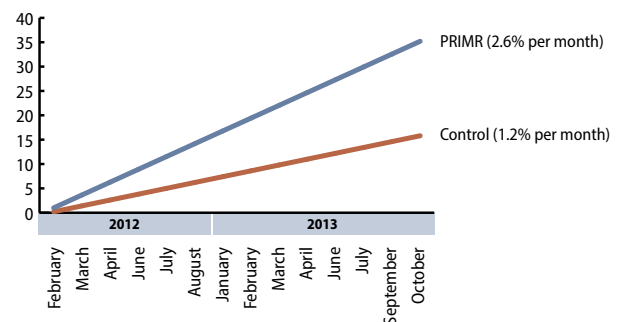
The Kenya Primary Math and Reading (PRIMR) Initiative, an applied research program in 1,384 schools, focuses on improving English, Kiswahili, mother tongue, and mathematics skills of children in grades 1 and 2. In addition, PRIMR’s nationwide tablet program supports instructional supervision and access to learning achievement data. PRIMR is led by RTI and funded by the United States Agency for International Development (USAID) and the United Kingdom’s Department for International Development (DFID).

PRIMR’s goal is to provide the Ministry of Education, Science and Technology (MoEST) with tested and sustainable recommendations in teacher professional development, materials development, instructional support, and periodic assessment of students and schools. PRIMR uses evidence-based instructional improvement methods to increase students’ fundamental skills in literacy and numeracy. The program has introduced innovative teaching methods, new materials based on the existing Kenyan curriculum, and professional development to build the skills of educators and improve student literacy outcomes. Teachers receive both high-quality professional development and targeted instructional support responding to actual teaching practice to help them make fundamental changes in their classroom teaching behavior.

Evidence-based support yields improved reading and mathematics outcomes

PRIMR’s design and instructional materials are built upon prior studies of literacy and numeracy achievement in Kenya. PRIMR explicitly focuses on improving the likelihood that pupils can read at the MoEST’s expected learning benchmarks, which were set with PRIMR’s assistance in August 2012 for both Kiswahili and English. USAID PRIMR October 2013 results show that pupils in PRIMR-supported public and nonformal schools were nearly three times more likely to read at

Exhibit 1. Rate of increase in the proportion of pupils reading at benchmark, in English, grade 2



the MoEST’s benchmark than the pupils in comparable schools (Exhibit 1). These results were consistent across languages, locations, and grade levels. In short, PRIMR is fundamentally improving pupil achievement in Kenya, even in schools that have implemented the program for only one year.

The PRIMR mathematics program, implemented in classrooms since July 2012, focuses on key elements of early mathematics not found in the typical Kenyan classroom. It emphasizes flexible and efficient methods for improving students’ problem-solving skills. The PRIMR October 2013 results showed positive impacts of PRIMR on addition and subtraction fluency as well as number sense.

PRIMR: 4 Key Elements

1. Pupil books provided at high quality and low cost in English, Kiswahili, and mathematics
2. Teachers' guides that match precisely with the pupil books, and provide strategies for teaching reading and mathematics daily
3. High-quality, low-cost professional development for teachers, with significant modeling and practice
4. Coaching for teachers with support from electronic tablets, focused on instructional change

ICT and the National Tablet Program

The cost-effectiveness of information and communication technology (ICT) is a major focus of the PRIMR Initiative. In one county (Kisumu), three schools are trying out one of these ICT interventions: (1) Coaches/tutors who support teachers are given tablets to enhance their work; (2) teachers use tablets and also receive support from coaches/tutors; (3) pupils use e-readers to extend their reading practice. PRIMR also supplies all three groups the other key elements (text box). Between January and October 2013, pupils in all three PRIMR ICT intervention schools substantially improved their ability to read in both English and Kiswahili. Many ICT interventions show no statistically significant short-term effects, but all three of these “worked.” In addition, the coach/tutor tablet program was nearly twice as cost-effective as the next best option. While the pupils with e-readers performed better than a control group, the intervention was far less cost-effective than the status quo in Kenya.

Based on this research, Google gave RTI enough tablets for a 2014 program in which tutors from the government's Teachers' Advisory Centre (TAC) will support Kenya's teachers nationwide in literacy and numeracy. In preparation for the rollout, additional funding from DFID allowed for the development of an upgraded virtual flashcard for letter sounds, improved multimedia teachers' guides, and most importantly, electronic versions of PRIMR's classroom observation forms. Observers' data can be matched with daily assessments of learning outcomes in literacy and numeracy to fundamentally improve the amount of usable, real-time, country- and county-level data.

Sustainability of Learning Improvements

PRIMR was designed and implemented to test scalable models of instructional support. Assessment, material production, instructional design, training, supervision, and follow-up all have actively involved of the MoEST and the Semi-Autonomous Government Agencies, specifically the Teachers' Service Commission, the Kenya Institute of Special Education, and the Kenya National Examinations Council.

In collaboration with the MoEST and other education stakeholders, RTI has been broadly disseminating the PRIMR project outcomes and discussing their implications. The program's measured impact on pupil achievement was instrumental in the inclusion of early literacy and numeracy in MoEST's National Education Sector Support Programme (NESSP), the sector plan to improve the quality of education for the next five years. The aim now is to ensure that evidence-based, cost-effective approaches to improving the quality of teaching and learning are implemented well by the NESSP.

Based on the results of PRIMR, the MoEST has approved a nationwide pilot of PRIMR's books, lesson plans, instructional materials, and other diagnostic and supplemental materials, called Tusome. It is expected to begin in 2014.

Research findings from PRIMR

- Lesson plans, student books, and training and support for teachers lead to substantial net gains in student reading outcomes.
- The most cost-effective use of ICT is providing Teachers' Advisory Centre (TAC) Tutors and coaches with tablets loaded with instructional support software and content.
- Concise teacher guides and appropriate training lead to greatest use of materials and instructional change.
- 15:1 is the optimal, cost-effective teacher-to-coach ratio.

More Information

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