

# Reimagining Rural Education



ABDUL LATIF JAMEEL  
Poverty Action Lab

TRANSLATING RESEARCH INTO ACTION



**USAID**  
FROM THE AMERICAN PEOPLE

 **PIXATEL**



# Problem – Lack of Quality Education

< 50%

children in grade 5 can  
read at grade 2 level

$\frac{3}{4}$

of grade 5 math students  
cannot do simple division

25%

of children will drop out  
of school by grade 5

Create Screen Clipping

Sources: ekstep.org, ASER Survey, 2014 , Educational Statistics at a Glance (2010-2011)

# Speculation on the Current State of Education

- **Lack of Quality Teachers**
  - High rates of teacher absenteeism
  - Unmotivated teachers
  - Poor qualifications
- **Lack of Quality Content**
  - Content is not standardized across grades
  - Textbooks utilize poor pedagogy
  - Teachers lacking strong supplemental material
- **Lack of Support Systems**
  - Parents lack literacy to provide support
  - Tutors too expensive for most families
  - Once a student falls behind, its difficult to catch up

# Past Approaches to Attempted Solutions

- Past approaches to improve education quality
  - Improving classroom inputs like textbooks or class aides
  - Giving teachers performance-based incentives
  - Training or hiring more teachers
- Rigorous testing shows that past approaches have delivered limited results
  - Demonstrated little impact
  - Too expensive to implement
  - Difficult to scale
- Research argues for solutions with new approach\*
  - Allowing for diverse student ability and remedial training within each grade
  - Content that is unaffected by teacher quality or high teacher turnover

\*Glewwe and Kremer, *Handbook on the Economics of Education* 2006; Banerjee and Duflo, *Poor Economics*, 2011

# Pixatel's Solution

- A novel tablet-based learning platform that provides children with dynamically tailored adaptive content suitable to their individual learning level
- Enables daily practice and testing to enable mastery of each topic learned
- The platform runs on inexpensive tablets and does not require constant electricity or Internet or computer literacy among teachers
- Auto-generated metrics show teachers which students most in need of attention in real time

# Large Learning Gains for Students with Tablets - 2015 Full Year Results

Figure 1: Estimated Effect of Math Whiz, Full Year

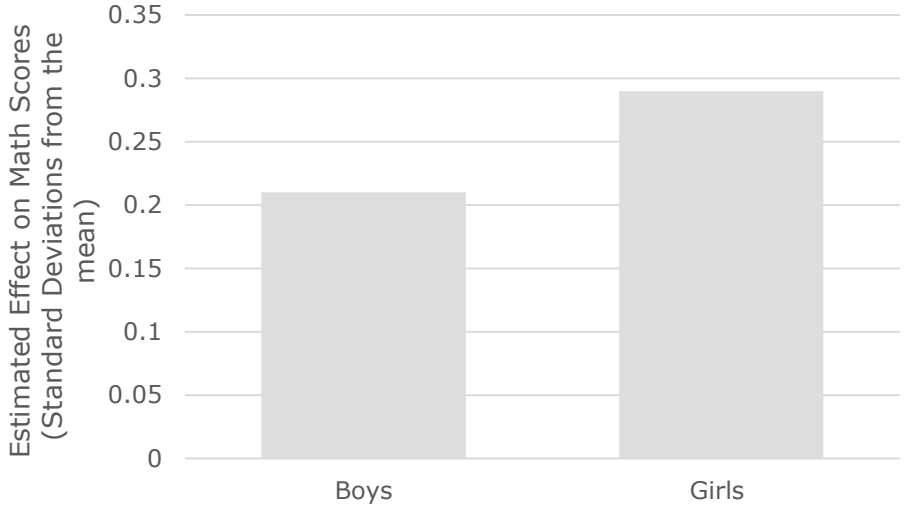
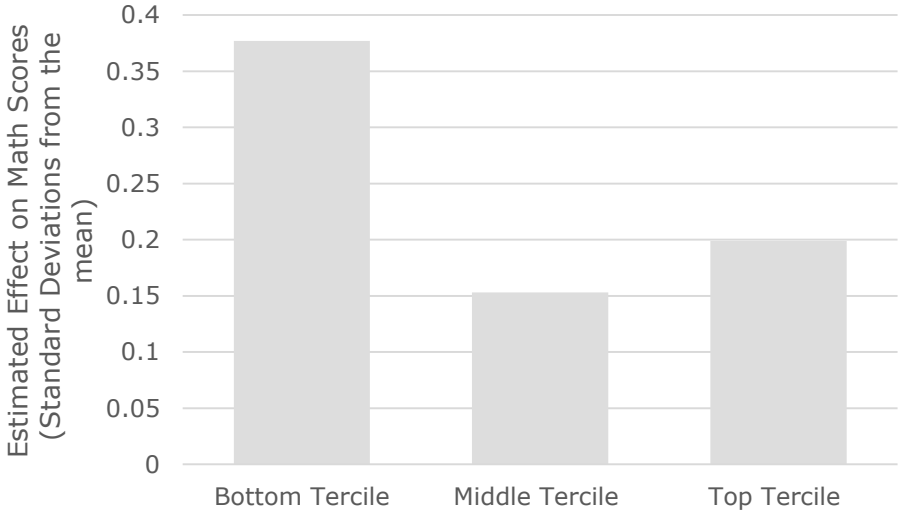


Figure 2: Estimated Effect of Math Whiz, Full Year



# Adaptive Learning Delivers Positive Results in Field Implementation

- Large increase in learning outcomes for bottom tercile of students and girls
- Tablets help teachers use classroom time more effectively
- Student non-cognitive skills improving
  - Real time feedback improving student confidence
  - Greater self-esteem and more focused attention
  - Disruptive students are more engaged and calm
  - Tablets helping overcome “math-phobia”
  - Habits for life-long learning developing

# Thank You

[education@pixatel.com](mailto:education@pixatel.com)

[www.pixatel.com](http://www.pixatel.com)