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

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, it's 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

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

- Boys
- Girls

Figure 2: Estimated Effect of Math Whiz, Full Year

- Bottom Tercile
- Middle Tercile
- Top Tercile
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

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