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# Early Grade Reading Assessment: Malindi, Kenya

March 25, 2009

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# About the presentation

- This presentation was prepared for the Comparative and International Education Society (CIES) annual meeting, Charleston, South Carolina, March 25, 2009.
- The United States Agency for International Development's (USAID's) EdData II project is led by RTI International. Early grade reading work in Kenya takes place under EdData II Task Order Number 4, EHC-E-04-04-00004-00.
- Icons appearing on some slides in this presentation represent links to embedded files that are not available in the PDF version of this document. To obtain copies of the embedded files, please contact Medina Korda, [mkorda@rti.org](mailto:mkorda@rti.org).

# Today's discussion

- Implementing partners
- Project design
- Interpretation of findings
- Further qualitative research
- Conclusions and lessons learned

# Implementing partners

- USAID – provided financial and technical support
- Aga Khan Foundation (AKF) – implements the reading intervention
- East African Development Consultants (EADEC) – carries out Early Grade Reading Assessments (EGRA)
- RTI – provided technical inputs for both development of EGRA instruments and design of remedial intervention
- Instruments and remedial intervention were developed with national-level stakeholders; reading intervention was closely implemented with district-level officers

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# Project design

- EGRA Kenya – experimental reading improvement trial
  - Starts with assessment
  - Then: Assessment-based intervention
  - Re-measurement at end and various points
- Targeted 20 control and 20 treatment schools in Malindi District (the Coast Province of Kenya)
  - One of the poorest districts in the country
  - Total number of schools is 120

# Implementation steps

- EGRA assessment instruments were designed in collaboration with local stakeholders in April 2007
- Baseline drawn in July 2007
- Intervention designed in August 2007 with anticipated start in September 2007
- The intervention commenced in February 2008
- Post-intervention assessment conducted in November 2008

# Assessment tools

But before we review the results, let's take a brief look at the EGRA instruments and intervention design

# Assessment tools

- EGRA, most of the time, consists of 7-8 subtests, depending on a country's desires
- In Kenya, we assessed reading in English and Kiswahili → EGRA developed for both languages
  - Letter knowledge
  - Familiar word recognition
  - Reading and comprehension
  - Phonemic awareness (not administered in Kiswahili)
  - Background questions – socioeconomic status, language spoken at home, etc.



EGRA tools

# Intervention

- Grade 2 targeted, but teachers in grade 1 also trained
- Teacher training focused on: scope (what), sequence (when), and instructional model (how)
  - Phonological awareness, phonics, reading fluency, comprehension and vocabulary
- School-based support: monthly visits
- Informal assessment to see what progress has been made
- Government support: time on task and accountability
- Capacity-building of district officers and project staff



alignment



sequence etc.

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# Results: Kenya

- Some 8 months later, rather large improvements have been noted – 80% increase over the baseline in treatment schools on some reading tasks
- Yet, similar improvements were also uncovered in control schools
- RTI and AKF launched a qualitative assessment to understand what happened

## Performance on all tasks by all schools (treatment and control)

|                      | Baseline | Post-treatment |                 |                |
|----------------------|----------|----------------|-----------------|----------------|
|                      | Average  | Average        | Absolute Change | Percent change |
| <b>Kiswahili</b>     |          |                |                 |                |
| Letter recognition   | 4.7      | 20.6           | 15.9            | 338%           |
| Word recognition     | 11.7     | 20.8           | 9.1             | 78%            |
| Passage words        | 10.2     | 18.9           | 8.7             | 85%            |
| Comprehension score  | 0.4      | 0.5            | 0.1             | 25%            |
| <b>English</b>       |          |                |                 |                |
| Letter recognition   | 22.7     | 29.5           | 6.8             | 30%            |
| Word recognition     | 7.5      | 16             | 8.5             | 113%           |
| Passage words        | 11.4     | 20.85          | 9.45            | 83%            |
| Comprehension score  | 0.4      | 0.3            | -0.1            | -25%           |
| Phoneme segmentation | 11.5     | 10.9           | -0.6            | -5%            |

Table 1. Performance on all tasks by control and treatment schools (includes absolute and percent changes)

|                         |   | Kiswahili |                |                 |                | English  |                |                 |                |
|-------------------------|---|-----------|----------------|-----------------|----------------|----------|----------------|-----------------|----------------|
|                         |   | Baseline  | Post-treatment |                 |                | Baseline | Post-treatment |                 |                |
|                         |   | Average   | Average        | Absolute change | Percent change | Average  | Average        | Absolute change | Percent change |
| Letter recognition      | T | 4.8       | 20.9           | 16.1            | 335%           | 21.6     | 29.6           | 8               | 37%            |
|                         | C | 4.5       | 20.3           | 15.8            | 351%           | 23.8     | 29.4           | 5.6             | 24%            |
| Word recognition        | T | 10        | 19.6           | 9.6             | 96%            | 5.8      | 13.6           | 7.8             | 134%           |
|                         | C | 13.3      | 20             | 6.7             | 50%            | 9.1      | 18.4           | 9.3             | 102%           |
| Passage reading         | T | 8.7       | 17.4           | 8.7             | 100%           | 9.3      | 18.3           | 9               | 97%            |
|                         | C | 11.8      | 20.4           | 8.6             | 73%            | 13.4     | 23.4           | 10              | 75%            |
| Comprehension questions | T | 0.36      | 0.74           | 0.38            | 106%           | 0.34     | 0.27           | -0.07           | -21%           |
|                         | C | 0.53      | 0.32           | -0.21           | -40%           | 0.45     | 0.37           | -0.08           | -18%           |

Table 1. Percent of students who could not read at all, compared by school type

|                     | control  |                | treatment |                | Percent point improvement |           |
|---------------------|----------|----------------|-----------|----------------|---------------------------|-----------|
|                     | Baseline | Post-treatment | Baseline  | Post-treatment | control                   | treatment |
|                     |          |                |           |                |                           |           |
| Kswh. Letters       | 31%      | 22%            | 38%       | 16%            | 9                         | 22        |
| Kswh. Words         | 31%      | 22%            | 38%       | 25%            | 9                         | 13        |
| Kswh. Passage words | 43%      | 25%            | 54%       | 31%            | 18                        | 23        |
| Kswh. Comprehension | 82%      | 24%            | 87%       | 29%            | 58                        | 58        |
| Eng. Letters        | 23%      | 14%            | 16%       | 12%            | 9                         | 4         |
| Eng. Words          | 45%      | 3%             | 50%       | 5%             | 42                        | 45        |
| Eng. Passage Words  | 47%      | 30%            | 54%       | 34%            | 17                        | 20        |
| Eng. Comprehension  | 80%      | 33%            | 85%       | 32%            | 47                        | 53        |

# Improvements in control schools?

- While treatment schools obviously were more effective in decreasing a number of nonperformers, control schools also improved significantly
- From the learning point of view, the intervention worked, but from the experimental point of view, we had more work to do in explaining increases in performance by control schools
- RTI and AKF launched a qualitative research to unveil what really happened

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# Qualitative research

- Let's look at two things that we ruled out before we reveal what the research found
  - Possible third factor (e.g., textbook distribution)
    - Some schools improved a lot and some did not – with the third factor, all would be at the same level
  - Extra two months of instruction; natural progression?
    - Average intergrade gain is about 14 correct words per minute (cwpm) if we look at fluency in connected text
    - Thus, on average children gain about 1.6 cwpm per month
    - In the first half of the year, students perform better by 33% than in the second half of the school year
    - When we adjust for that, it leaves us with about 1.35 cwpm gain per month. And for 2 months of extra learning in Kenya – gain of 2.7 cwpm
    - Yet, EGRA schools showed on average a gain of 9 cwpm

# Qualitative research

- Possible leakage?
- Pressure from the district officers?
- Accountability effect?
- Impact of informal assessments?
  - We targeted both treatment (9) and control (4) schools that made huge improvements

## Response to pressure?

- District staff and project staff did not directly exert any pressure
- But interviews revealed that teachers and head teachers remembered being told that their students were not doing so well and they took action
- Interviews also revealed that teachers and head teachers in control schools had been aware of the program all along, given how close schools are
- So, there was some unintended pressure on control schools that resulted in teachers and head teachers taking action to change their practices

## Response to pressure (*continued*)

- 40 schools targeted → 1/3 of total number of schools. They are close to each other and our research found sufficient leakage to explain the results
- In each control school visited, it was apparent that teachers realized that their students could not read
- So they took various actions to improve their performance: “look and say,” recitation, seeking of help from teachers in treatment schools and those in preschool and early childhood development programs with respect phonics, and other methods of teaching reading
- **CONCLUSION:** It is the teachers’ effort that made a difference in the control schools

## Excerpt 1

- *“After the assessment there was someone who told me the children can read better if they connect words in a sentence. So I started making them recite words, using flashcards and encouraging them to speak in English. I also assigned more time to oral work.”*  
– Grade 2 teacher at School 2 (control)

## Excerpt 2

- Two treatment teachers were transferred to control schools. These two teachers in School 4 (control) and School 8 (control) said that they used the EGRA methodology in their new schools as the “reading levels were very low.” This could explain the improved performance in these two control schools
  - School 4 with 254% improvement
  - School 8 with 875% improvement

## Excerpt 3

- In School 5 (control), the head teacher was instrumental in finding out how to improve reading. This was after he found out that his son, who was in grade 1 in a neighboring treatment school (School 9 – treatment), could read after only a few months in school. He said that he inquired from the Education Office on why his school was not implementing the EGRA methodology and was told that this was an experiment and his school was a control. He was not happy with that and he decided to learn the methods. He sent his lower primary school teachers to find out what “secret methods” the teachers were using.

## Excerpt 4

- One of the teachers was also proactive when she saw a teacher who is her neighbor and works at School 10 ( a treatment school) making lots of teaching aids. She said: *“I asked her why she was always making flashcards, word charts and puzzles. She told me that they helped her teach reading. I decided I had to do the same for my class.”* – Grade 2 teacher, School 5 (control)

# Conclusions

- The research found that not only was the treatment impact real, but also the treatment was practical enough, and its impacts observable enough, that teachers in control schools essentially demanded, and managed, to get treatment as well
- Lesson learned: Selecting control schools further away from treatment schools has some appeal, but this use of randomization actually militates against the whole idea of randomization, namely that the treatment and control schools be as similar as possible, to each other, aside from the fact of the treatment
- Overall: The intervention worked for all children and speaks volumes about teachers as professionals
- Have you had similar experiences in your work? Let's discuss all this a bit further

# Questions

- Amber Gove
- Andrea Reubens
- Medina Korda