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EdData II Project

# **EGRA Development and Use, Including Policy Dialogue**

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Amber Gove, PhD  
Luis Crouch, PhD  
RTI International

701 13<sup>th</sup> St., NW, Suite 750  
Washington, DC 20005

Tel: 202 728 2079 (Gove); 202 974 7819 (Crouch)

E-mail: [agove@rti.org](mailto:agove@rti.org), [lcrouch@rti.org](mailto:lcrouch@rti.org)

# About the presentation

- This presentation was prepared for a USAID Education Sector Professional Development Course on early grade reading, Washington, DC, May 12, 2008. The training was organized by the Bureau of Economic Growth, Agriculture, and Trade (EGAT) for the Education Sector Council's Training for Education Sector Teams program.
- The USAID EdData II project is led by RTI International, Contract No. EHC-E-00-04-00004-00.
- The companion workshop presentations cross-referenced in this document are "Linking Assessment, Instruction, and Professional Development to Improve Reading Outcomes," by Sylvia Linan-Thompson; and "Conceptual Framework for Early Reading Fluency: Insights and Monitoring Indicators from Cognitive Neuroscience," by Helen Abadzi.

# Outline

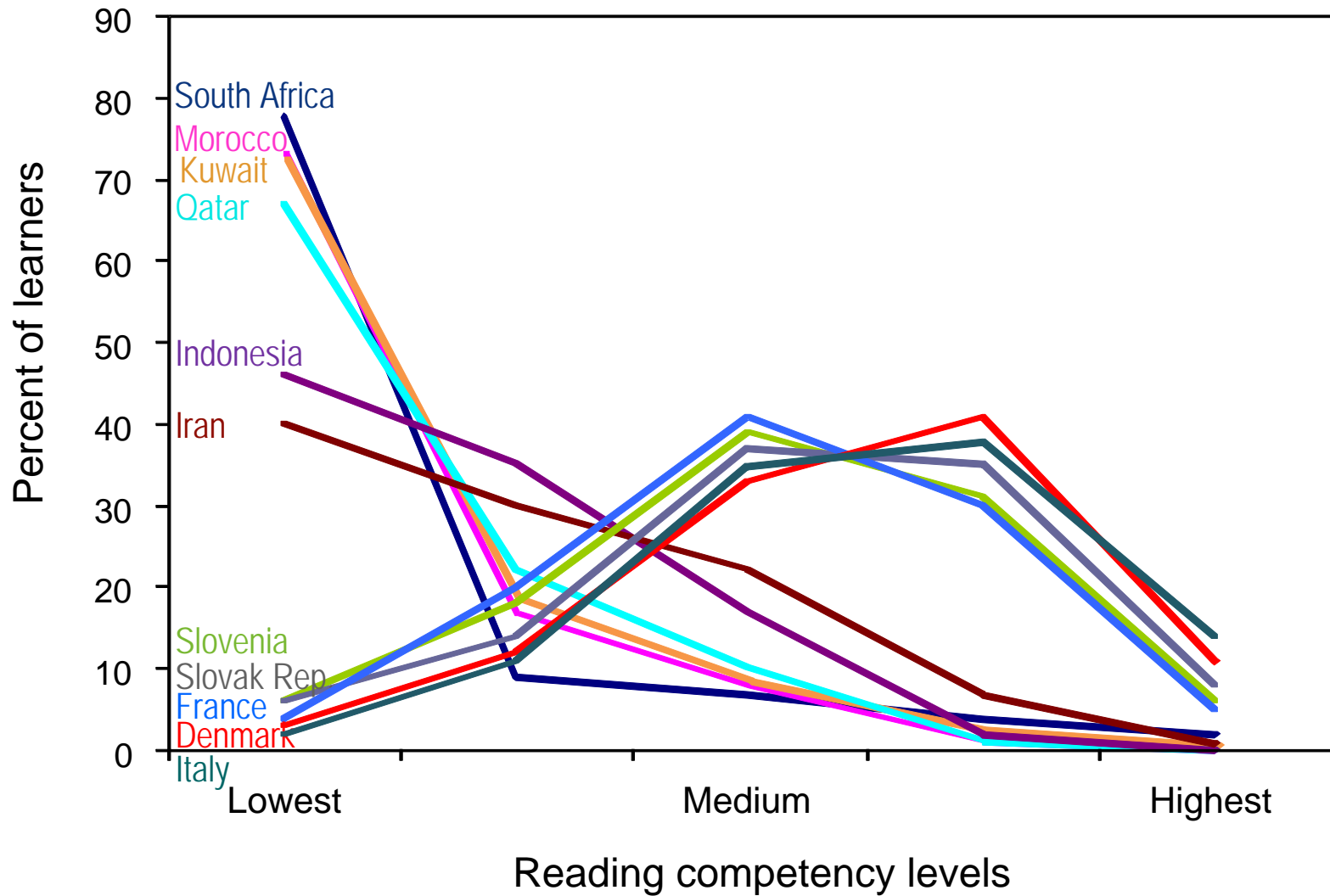
1. **Purpose: why Early Grade Reading (Assessment)?**
2. Development
3. Uses
4. Results
5. Policy dialogue

# Purpose: Why? Quality issues

- What are the big international goals?
  - How do low-income countries compare to high-income countries?
    - LI to HI ratio
      - Gross primary enrollment: 95%
      - Net primary enrollment: 80%
      - Gender parity NER: 94%
      - Completion: 58%
- |                         |   |
|-------------------------|---|
| • Learning achievement: | Approx 30%?                               |
| • Learning achievement: | Median LI = 3rd percentile of HI or lower |

LI = Low income, HI = High income  
NER = net enrollment rate

# PIRLS 2006 results



# So why focus on Early Grade Reading?

Early Grade

+

Reading =

- intervene early,
- intervene on reading,
- have some way to assess orally

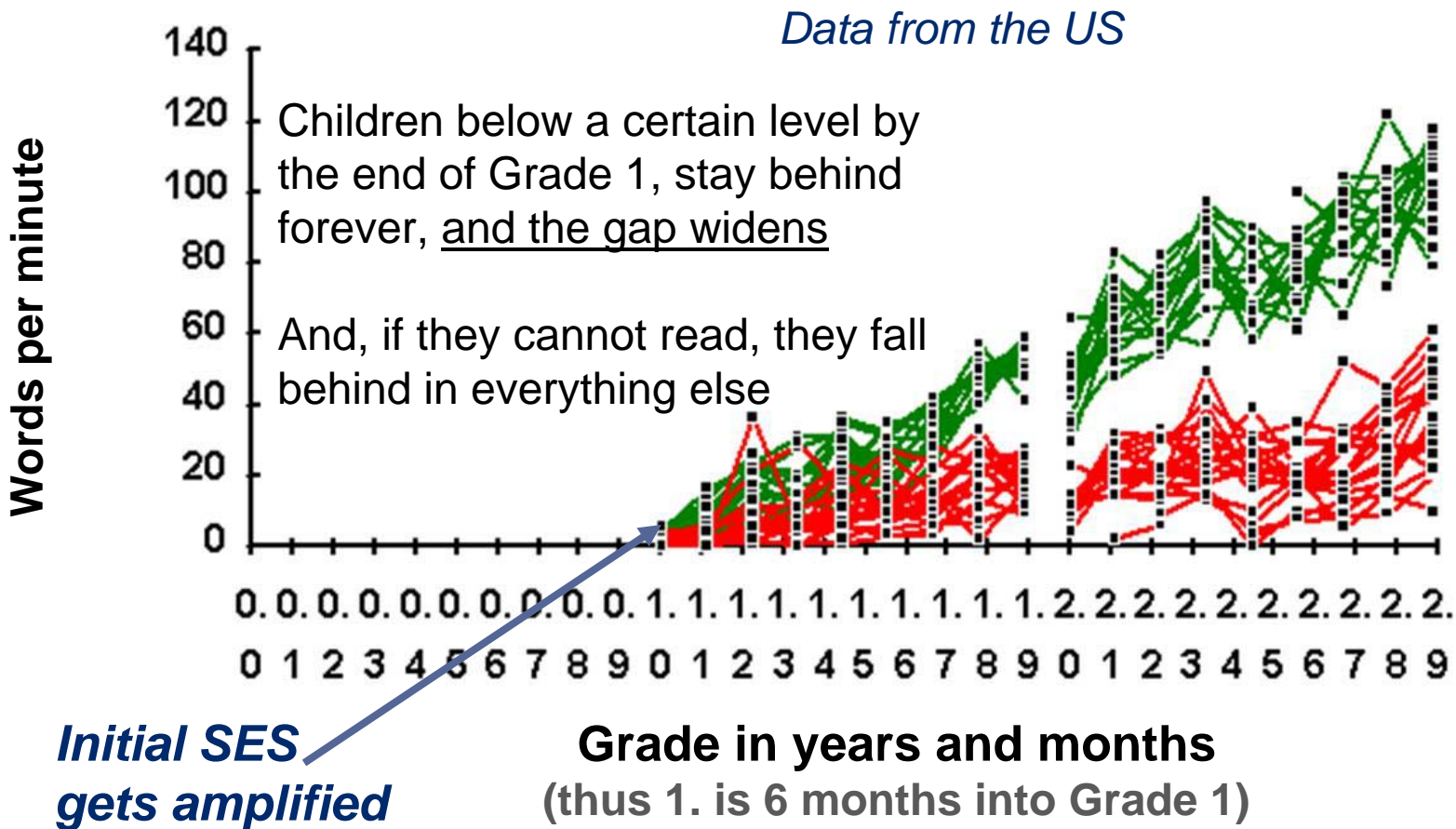
***Let's see if we can motivate those conclusions***

# Why early?

***“For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath.”***

***Matthew Effect?***

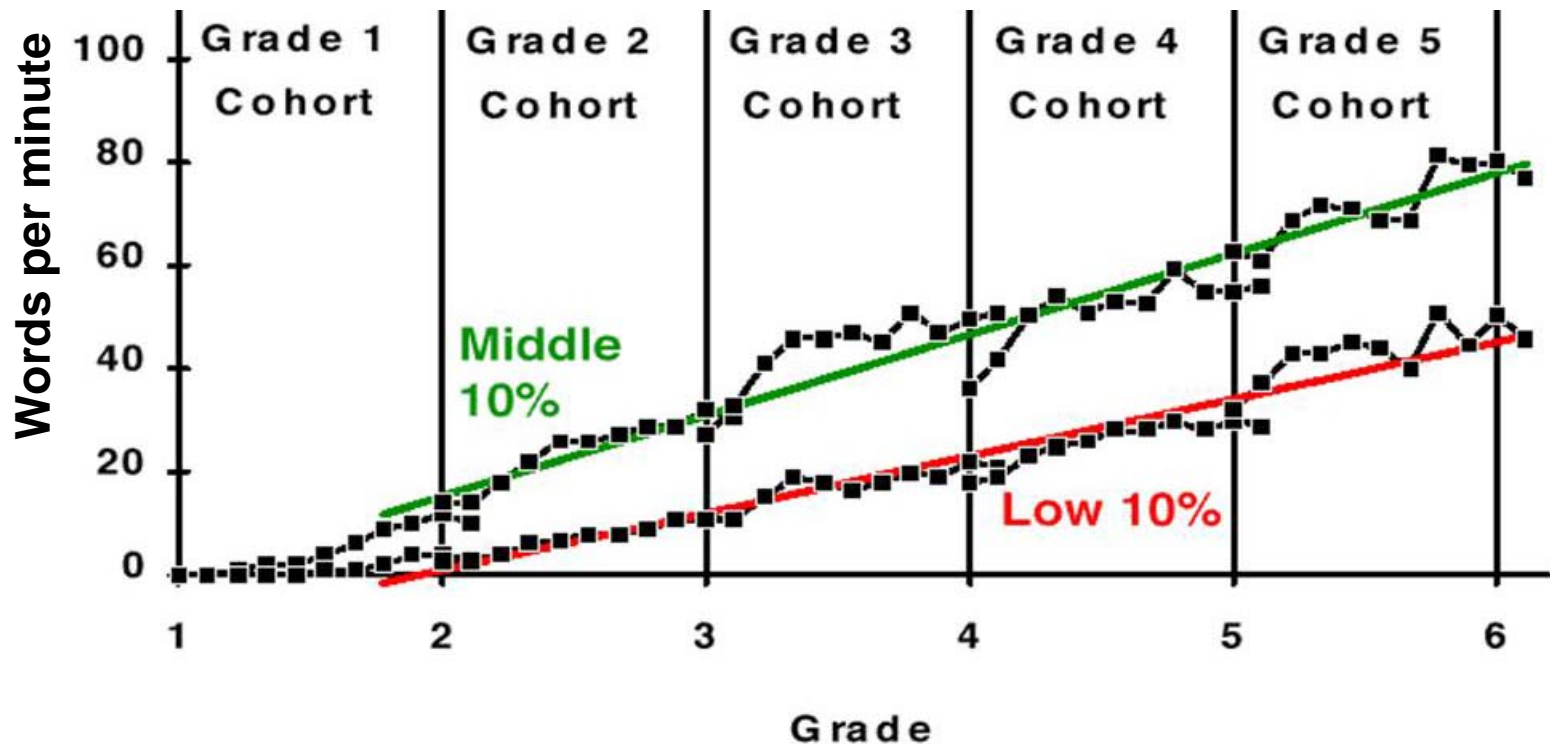
# Why early? Matthew Effect in reading





# Why early?

## Reading Trajectories of Low and Middle Readers



Good, Simmons, Smith (1998)

# Why reading?

- No, it is not “the only thing that matters”
- But it is a good one to start with
  - It is a **(*the?*)** foundational skill –  
Hard to imagine anything else going well if children can’t read well and soon
  - It can be used as a marker –  
Hard to imagine a good school that can’t teach children to read; if children are not reading, the school (district, country) needs serious help

# Why oral reading?



- Oral reading seems to be good predictor (see literature)
- Students frequently bottom out (floor-effect problems) on paper-and-pencil tests
- Elements of oral reading are in accord with curricular frameworks but frequently there are no specific (teacher-level) guidelines on how to assess

# Oral reading predictive power

## Examples:

- Wilson (2005): 0.74 correlation between oral reading measures and broader cognitive achievement in Arizona.
- Fuchs, Fuchs, Hosp, and Jenkins (2001) survey and explain the rather high correlations between oral reading fluency (ORF) and a large variety of other tests.
- Vander Meer, Lentz, and Stevens (2005): 96% of children judged to be at risk using oral reading turned out to be “nonproficient” in Ohio’s more comprehensive test, while of those classified as “low risk” using oral reading fluency, 72% were classified as proficient using a more comprehensive test.
- Shaw and Shaw (2002): find similar results for the relationship between simple measures of oral fluency and deeper statewide measures of reading in Colorado
- Fuchs, Fuchs, and Maxwell (1988): correlation of 0.91 between oral reading fluency and other comprehensive tests

## Oral reading predictive power *(continued)*

- Juel (1988): “The probability of remaining a poor reader at the end of fourth grade, given a child was a poor reader at the end of first grade, was .88 .... the probability of remaining an average reader in fourth grade, given an average reading ability in first grade, was .87.”
- Schilling, Carlisle, Scott, and Feng (2007): 80% of at-risk with ORF turned out to be in bottom quartile with Michigan’s own reading test at end of grade
- Wood (2006) finds significant correlations between oral reading fluency and later curriculum-based tests, and finds that oral reading fluency adds explanatory value even when other factors are considered.
- Some of these recommend adding comprehension and vocabulary (EGRA does comprehension, not vocabulary), but ORF by itself does a pretty good job

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# Development thus far

- “Organic” process: meets “market test” at each step
- First: informal, small samples, see if it was useful at generating awareness, very little funding
- Attention attracted, professional community involved
- Some funding to try it a bit more formally
  - USAID funding: validate efforts thus far with expert opinion, try some more applications
  - Call high-level experts meeting, experts validate, suggest increased formality, seriousness of trials
  - World Bank adds some funding, try it in two more international languages, local languages

## Development thus far *(continued)*

- Tried it in some more countries
- Countries found it useful: “market test” met
- Assess statistical properties, test further country reaction, do a few more countries, “market test” further met
- And here we are: further evaluate results, discuss, chart further direction and uses



Instrument Component	Early Reading Skill	Skill demonstrated by students' ability to:
1. Engagement and Relationship to Print	Orientation to print	Indicate where to begin reading (uppermost left corner)
		Indicate direction of reading within a line (left to right)
		Indicate direction of reading within a page (top to bottom)
2. Letter Naming	Letter recognition	Provide the name of upper- and lower-case letters distributed in random order
3. Phoneme Segmentation	Phonemic awareness	Segment words into 2 to 5 phonemes, counting of phonemes within words
4. Familiar Word Reading	Word reading	Read simple and common one and two syllable words
5. Nonsense Word Decoding	Alphabetic principle	Make grapheme-phoneme correspondences (GPCs) through the reading of simple nonsense words
6. Paragraph Reading and Comprehension Questions	Oral reading fluency	Read a text with little effort and at a sufficient rate
	Reading comprehension	Respond correctly to different type of questions (literal with options, literal and inferential) about they text they have read
7. Listening Comprehension	Listening comprehension	Respond correctly to different type of questions (literal with options, literal and inferential) about they text the enumerator reads to them
8. Dictation	Alphabetic principle	Write, spell and use grammar properly through a dictation exercise

# Other characteristics

- Many segments timed to 1 minute
  - Meant to measure fluency (critical skill), also more humane, and more efficient – whole test can be done in less than 15 minutes
- Applied by assessor (or teacher), one-on-one, not pencil and paper in whole class
- Can be done on sample basis
- Very easy to score
- Can provide essentially instant results for a village

# Outline

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# Possible uses

- Policy awareness and motivation
  - Macro
  - Community-based
- Impact tracking and evaluation
  - Project monitoring
  - Project impact and evaluation
  - System monitoring over time
- Teacher-based assessment
  - (Could link to community-based awareness, accountability?)
  - Motivating and driving instructional practice
  - Already being used that way in various countries

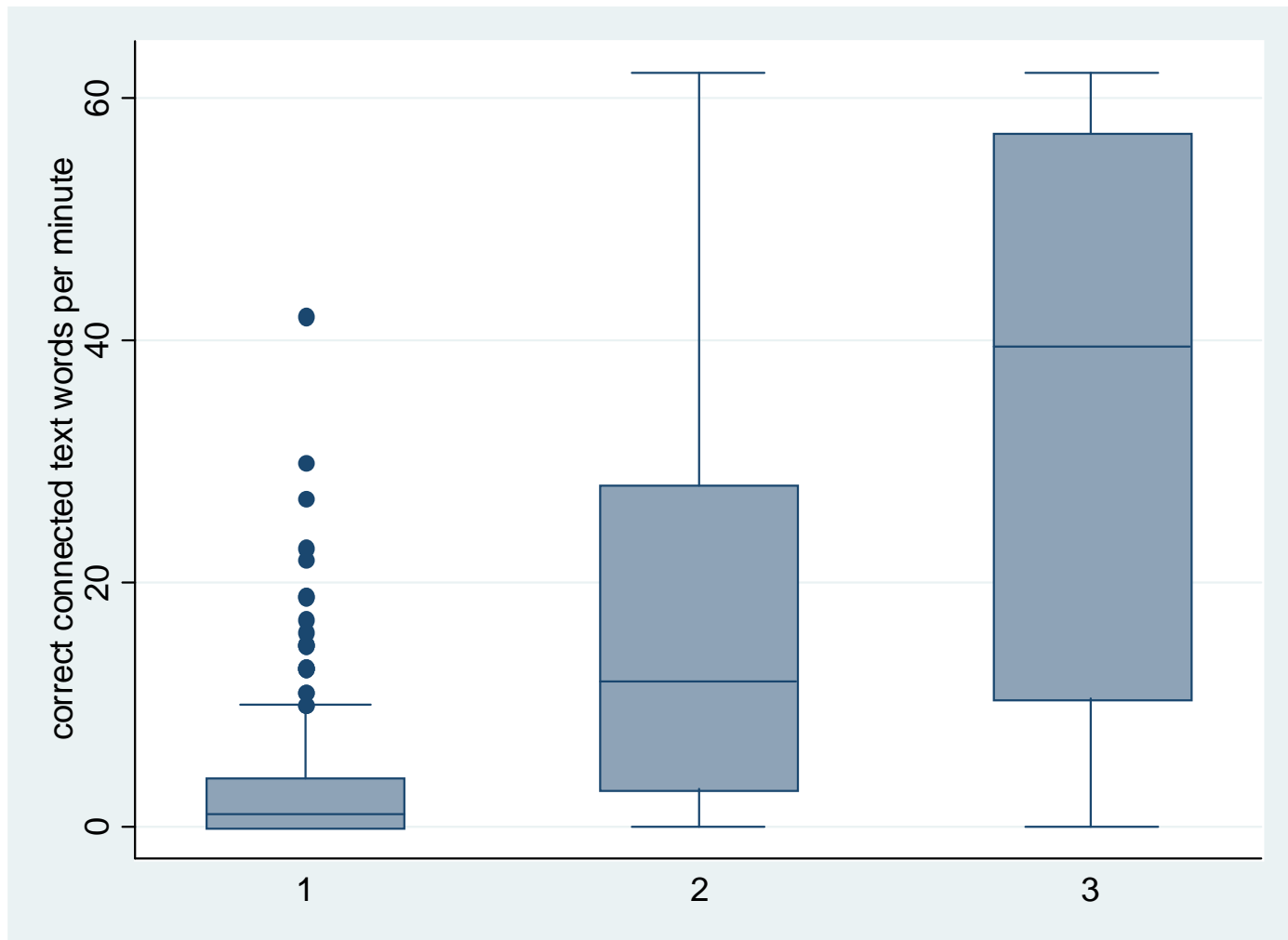
# Outline

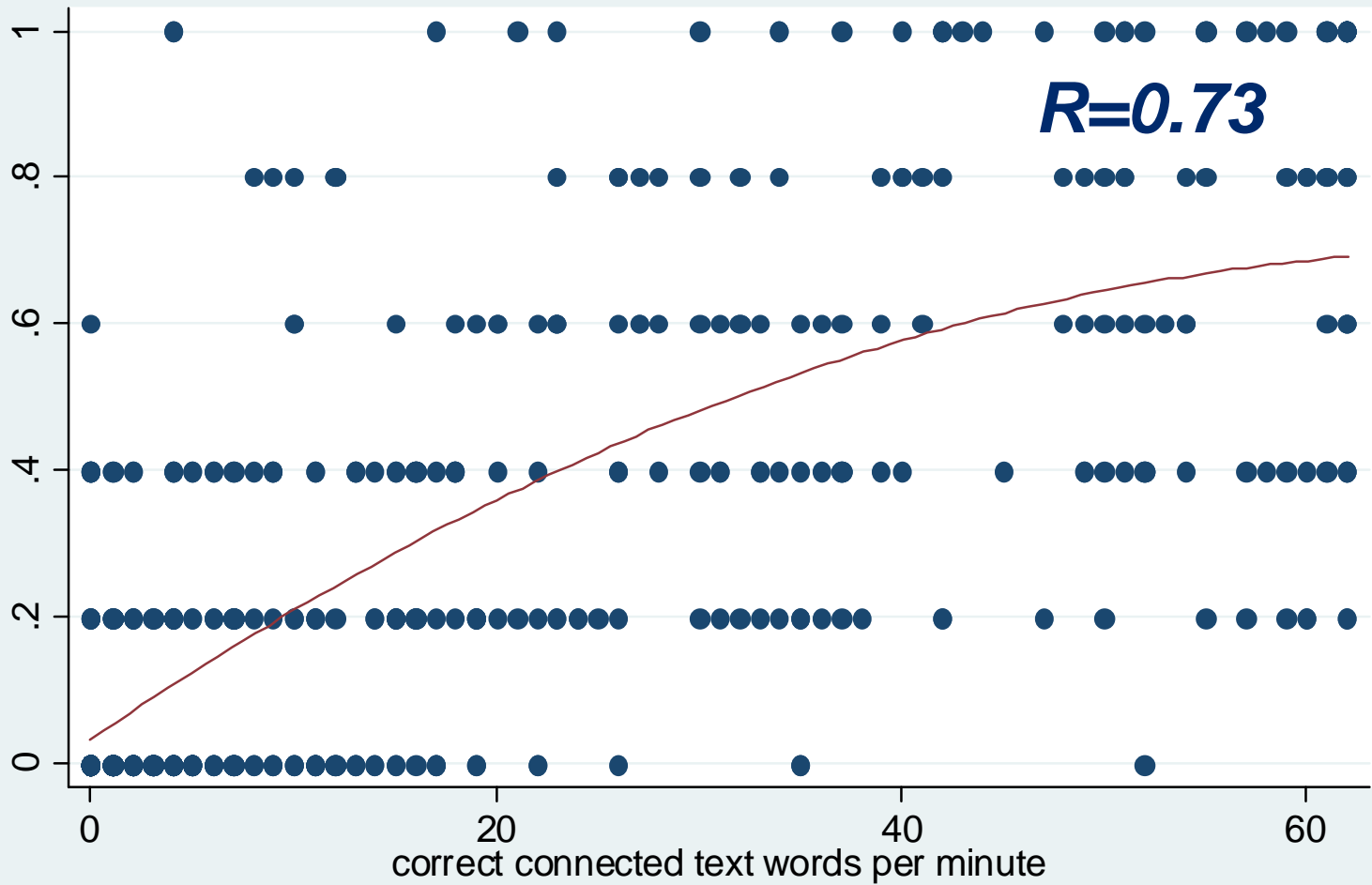
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# Results

Country	Language	Grades	Schools	Students
The Gambia	English	1-3	40	1200
Senegal	French	1-3	36	501
	Wolof	1, 3	36	186
Nicaragua	Spanish	1-3	41	1924
	Miskitu	1-3	6	282

# French: Fluency by grade





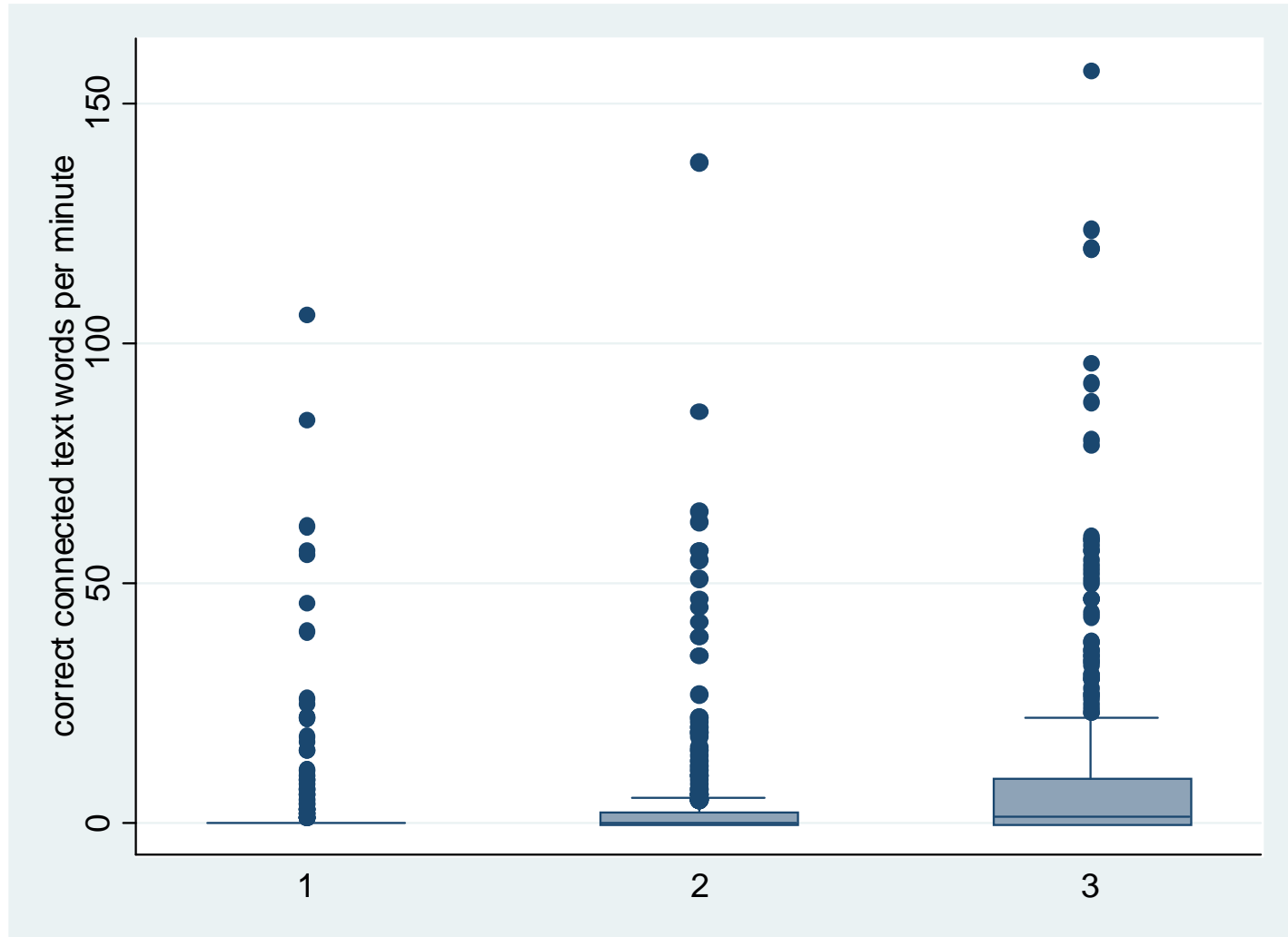
● comprehension percent correct — Fitted values

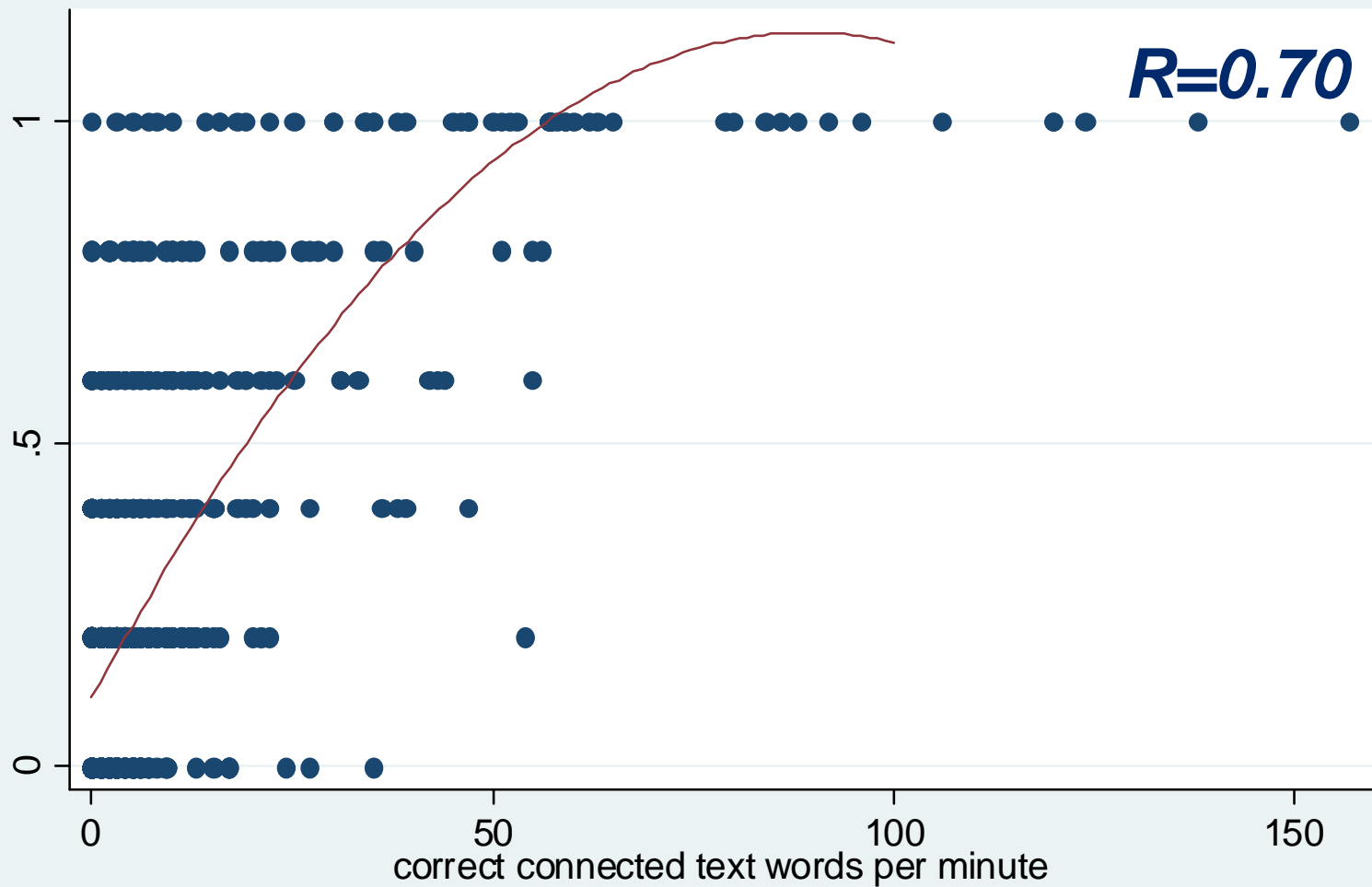


# Summary of EGRA results: Senegal

- At standard of 45 cwpm for paragraph reading, percent of tested students who “can read”:
  - Grade 2 French: 11% (Mean=56.8 cwpm, Comp. 62%)
  - Grade 3 French: 48% (Mean=58.1 cwpm, Comp. 66%)
  - Grade 3 Wolof: 28% (Mean=56.8 cwpm, Comp. 77%)
- Characteristics of French “readers” (NR=Nonreaders)
  - 64% have reading books at home (NR: 47%)
  - 85% attended preschool (NR: 77%)
- Characteristics of Wolof “readers” (NR=Nonreaders)
  - 45% have reading books at home (NR: 44%)
  - 76% attended preschool (NR: 72%)

# English: Fluency by grade

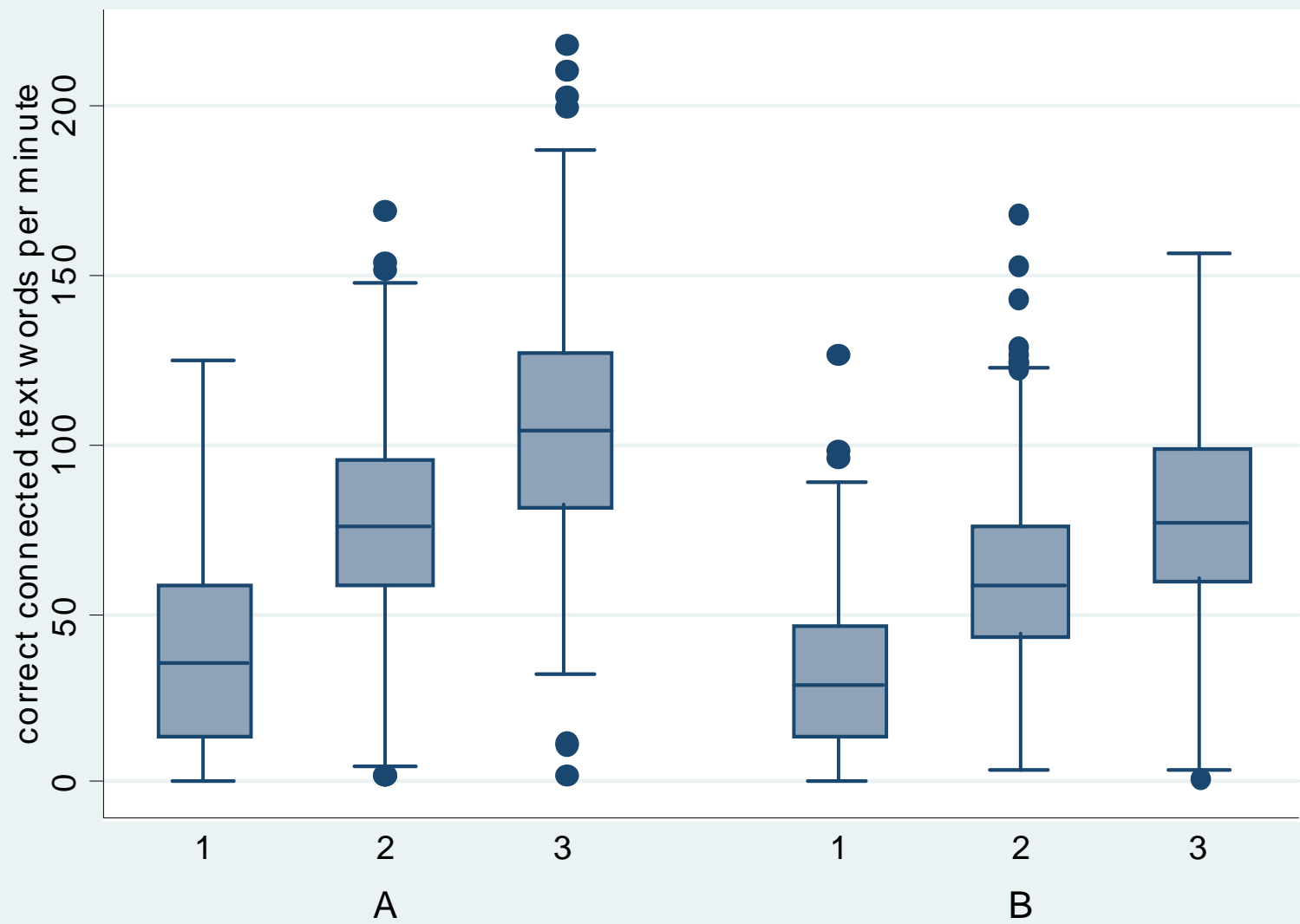


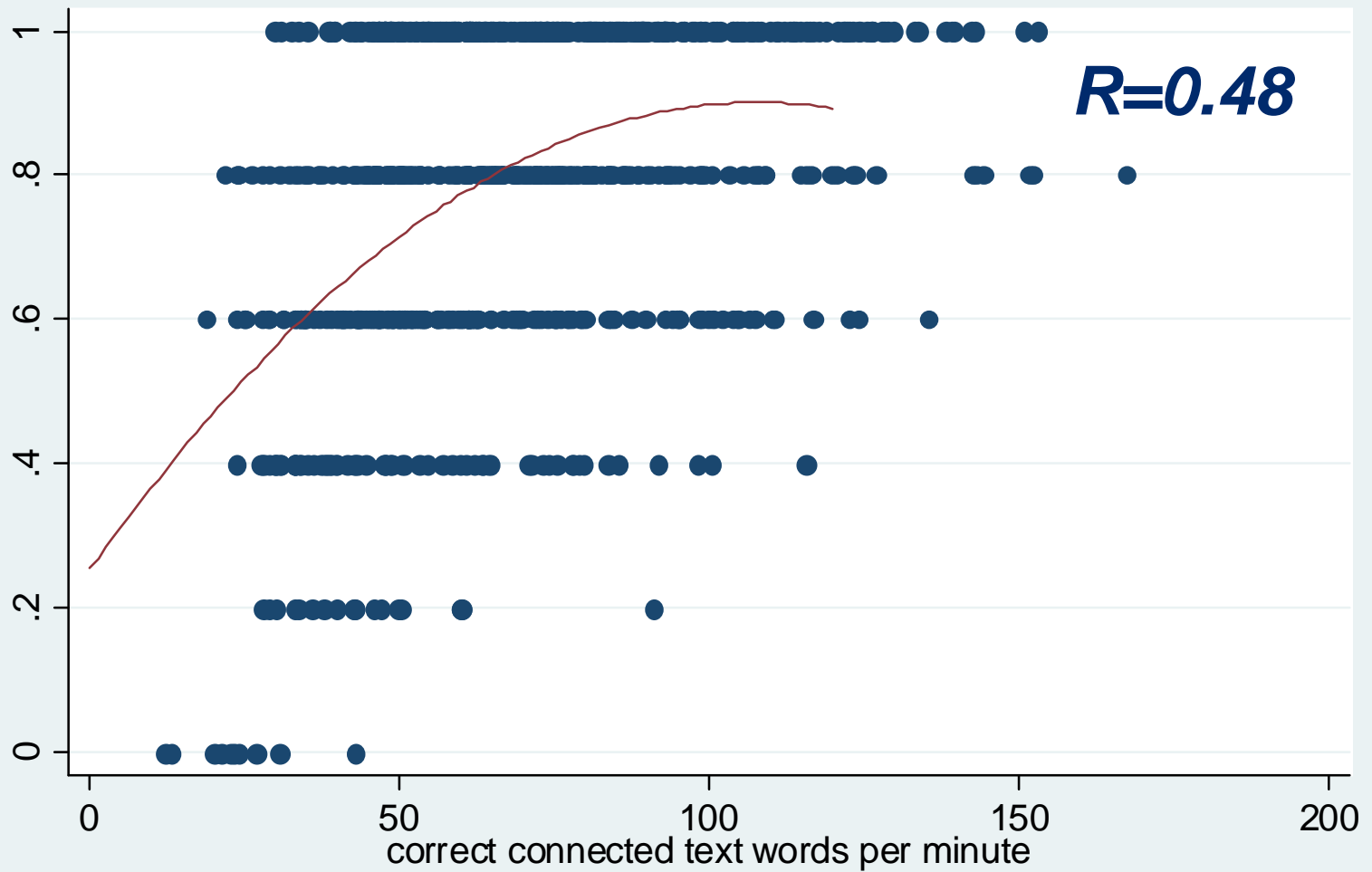


● comprehension percent correct — Fitted values

# Summary of EGRA results: The Gambia

- At standard of 45 cwpm for paragraph reading, percent of tested students who “can read”:
  - Grade 1: 1.4% (Mean=68 cwpm, Comp. 96%)
  - Grade 2: 2.6% (Mean=66 cwpm, Comp. 96%)
  - Grade 3: 6.1% (Mean=73 cwpm, Comp. 92%)
- Characteristics of “Readers” (N=40) (NR=Nonreaders)
  - 90% have reading books at home (NR: 24%)
  - 57% say mother is literate in English (NR: 22%)
  - 88% attended preschool (NR: 63%)





● per\_comp — Fitted values

# Summary of EGRA results: Nicaragua

- At standard of 60 cwpm for paragraph reading, percent of tested students who “can read” in Spanish:
  - Grade 1: 17%, Mean=77 cwpm, Comp. 87%
  - Grade 2: 60%, Mean=85 cwpm, Comp. 87%
  - Grade 3: 85%, Mean=101 cwpm, Comp. 87%

# Format A and B descriptives

A	Variable	Obs	Mean	SD	Min	Max	B	Variable	Obs	Mean	SD	Min	Max
G1	numfon	328	4.5	7.0	0.0	29.0	G1	numfon	326	4.9	7.4	0.0	29.0
	clpm	298	34.6	17.4	1.4	78.2		clpm	283	35.4	20.1	0.0	88.5
	cwpm	284	28.4	19.1	1.0	93.9		cwpm	238	30.4	20.0	1.0	110.3
	cunwpm	263	25.2	15.1	1.0	63.6		cunwpm	240	24.1	15.8	1.0	71.2
	fpm	266	38.3	27.4	0.0	124.0		fpm	244	32.0	22.4	1.0	126.5
	sum_comp	151	3.8		0.0	5.0		sum_comp	130	3.5		0.0	5.0
	sum_comp_list	322	1.9		0.0	3.0		sum_comp_list	318	1.6		0.0	3.0
	G2	numfon	321	6.3	8.3	0.0		29.0	G2	numfon	310	7.0	9.0
clpm		316	50.9	18.1	6.9	105.1	clpm	305		50.7	18.8	4.0	98.4
cwpm		316	50.2	20.0	1.0	110.6	cwpm	300		50.0	21.2	2.0	124.7
cunwpm		310	40.0	14.7	1.0	86.2	cunwpm	301		38.8	16.4	1.0	87.3
fpm		313	75.1	29.1	2.0	168.7	fpm	300		59.6	27.6	4.0	167.4
sum_comp		272	4.4		0.0	5.0	sum_comp	260		3.8		0.0	5.0
sum_comp_list		316	1.8		0.0	3.0	sum_comp_list	304		1.8		0.0	3.0
G3		numfon	319	7.9	9.4	0.0	29.0	G3		numfon	317	7.8	8.8
	clpm	318	62.3	17.8	5.0	136.5	clpm		317	61.0	18.3	15.0	111.1
	cwpm	316	67.6	20.4	8.9	142.8	cwpm		314	63.1	21.9	3.0	135.5
	cunwpm	316	51.4	15.7	3.0	119.9	cunwpm		314	47.7	16.3	4.0	115.8
	fpm	317	105.0	32.3	2.0	217.9	fpm		315	78.8	29.3	1.3	155.6
	sum_comp	301	4.5		2.0	5.0	sum_comp		295	4.1		0.0	5.0
	sum_comp_list	314	1.9		0.0	3.0	sum_comp_list		311	1.8		0.0	3.0



# Results: Reliability and validity

- Reliability—Accuracy and internal consistency
  - Cronbach's Alpha: Fr=0.90, Eng=0.87, Sp=0.84
- Validity—Ability of a measure to report outcomes we know to be true
  - Face: Policy makers, parents view EGRA as related to their “sense” of reading
  - Concurrent/External: Requires external measure
  - Predictive: Requires longitudinal data, multiple measures
- Item response theory (IRT) analysis (to be conducted with Nicaragua data)

# Lessons and implications for future work

- Test development is hard work, requires careful preparation and multiple pretests in country (in rural and urban areas)
- Local curriculum specialists tend to make the assessment too difficult (e.g., floor issues in English)
- French and Spanish appear to require less time to learn than English (transparent orthography)
- Not surprisingly, students tested in mother tongue (L1) do well in listening exercises; dearth of print materials may hamper reading skills in L1 relative to L2

# Outline

1. Purpose: why Early Grade Reading (Assessment)?
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# Policy dialogue on EGRA

1. **Importance of awareness-building**
2. Stages in awareness-building and problem-solving
3. Some issues to consider in planning the dialogue

# Importance of awareness-building

- One reason for using EGRA, not just complex paper-and-pencil tests, is its advantage in awareness-raising
- Most policy makers are not aware of low level of quality in rural public schools
  - Own children attend urban private schools
  - When they visit rural schools, they just look at infrastructure
    - I have never seen a Minister or ministry official ask a child to read to them, in the usual school visits

# Importance of awareness-building *(continued)*

- EGRA has the advantage that “common sense” and science match, so let’s use this fact
  - Reading a paragraph, for example, matches a “common sense” view of what it means “to read”
  - A score of 345 on a “reading assessment” means little to a policy maker
    - Even a sense of “proficient” or “not proficient” means little
    - “Cannot recognize the letters” does mean something!
- So, let’s use these facts to raise awareness
- A large proportion of why EGRA looks the way it does is to make it easier to raise awareness about quality!

# Policy dialogue on EGRA

1. Importance of awareness-building
2. **Stages in awareness-building and problem-solving**
3. Some issues to consider in planning the dialogue

# Stages in awareness-building and problem-solving

Stages; possible “facts” to use at various stages

Note: the “facts” don’t fall into one stage only

Not all of these stages are necessary in every case

- **Motivating a basic look**
- Carrying out an assessment
- Doing the dialogue, elements of dialogue



# Motivating a basic look

To get “permission” or to legitimate the whole issue, may need to “sell” initial idea. Options:

1. Refer to the various PowerPoint presentations used in this training, do your own, cut and paste
2. Refer to “motivating” materials in the presentations available by Googling “EGRA workshop USAID World Bank” or go to <http://go.worldbank.org/0SFS7PP330>
  - Examples provided in next slide or two
3. Do an initial “mini EGRA” with some Ministry officials—Have them visit schools where you know things are likely to be bad, and ask kids to read. Or do it yourself.
4. Capture images on video or sound (as Helen Abadzi has done)

# Motivating a basic look

Some important factoids...

## **1. We need to be more careful about how we “sell” education**

We get less money than other sectors because we don't focus on outcomes... For example, see the difference between how the Canadian International Development Agency (CIDA) describes its health and education initiatives on its website:

# Motivating a basic look *(continued)*

## CIDA: health sector

▲ <http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-111894059-K8N>

### More health results

Through CIDA, Canada's significant financial contributions to the health sector and its policy leadership have consistently been far greater than what would be expected given our population base and economic landscape. We have influenced global health initiatives and improved the health status of millions of people around the world.

It is estimated that these initiatives, funded by Canada and implemented through partnerships with our national, international, and developing-country partners, have:

- cured four million people of tuberculosis;
- reduced measles deaths by half;
- saved the lives of two million children by providing vitamin A; and
- helped more people in the developing world access drug therapy for HIV/AIDS.

Further achievements have included a reduction in infant and child mortality, including the almost complete eradication of polio, an increase in bed net distribution to reduce the incidence of malaria, and an increase in the rate of use of contraceptives and a decrease in the fertility rate in some regions—all while promoting greater country ownership of development priorities.

Find out about more health results: Canada and Health [Results](#).

# Motivating a basic look *(continued)*

## CIDA: Education sector

<http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-1118132346-PKX>



CIDA is working with developing country partners to protect livelihoods and reduce vulnerability to the impacts of climate change.

Education is the single best development investment a country can make. It contributes to better health, higher incomes, and increased participation in community life. These social and economic returns have been proven to be particularly high when girls are educated.

The world community has been committed to achieving universal primary education since 1990. Two of the eight [Millennium Development Goals](#)—universal primary education and reducing the gender gap at all levels of education—underscore the importance of this issue and the importance of educating girls.

Canada, a world leader in child-centred, girl-friendly education, has identified basic education as a program priority. **The Canadian International Development Agency (CIDA) supports initiatives that improve the quality, safety, and relevance of basic education; remove barriers that prevent closing the gender gap in education; provide education to prevent HIV/AIDS; and provide education for girls and boys in conflict, post-conflict, and/or emergency situations.**

# Motivating a basic look *(continued)*

Some important factoids...

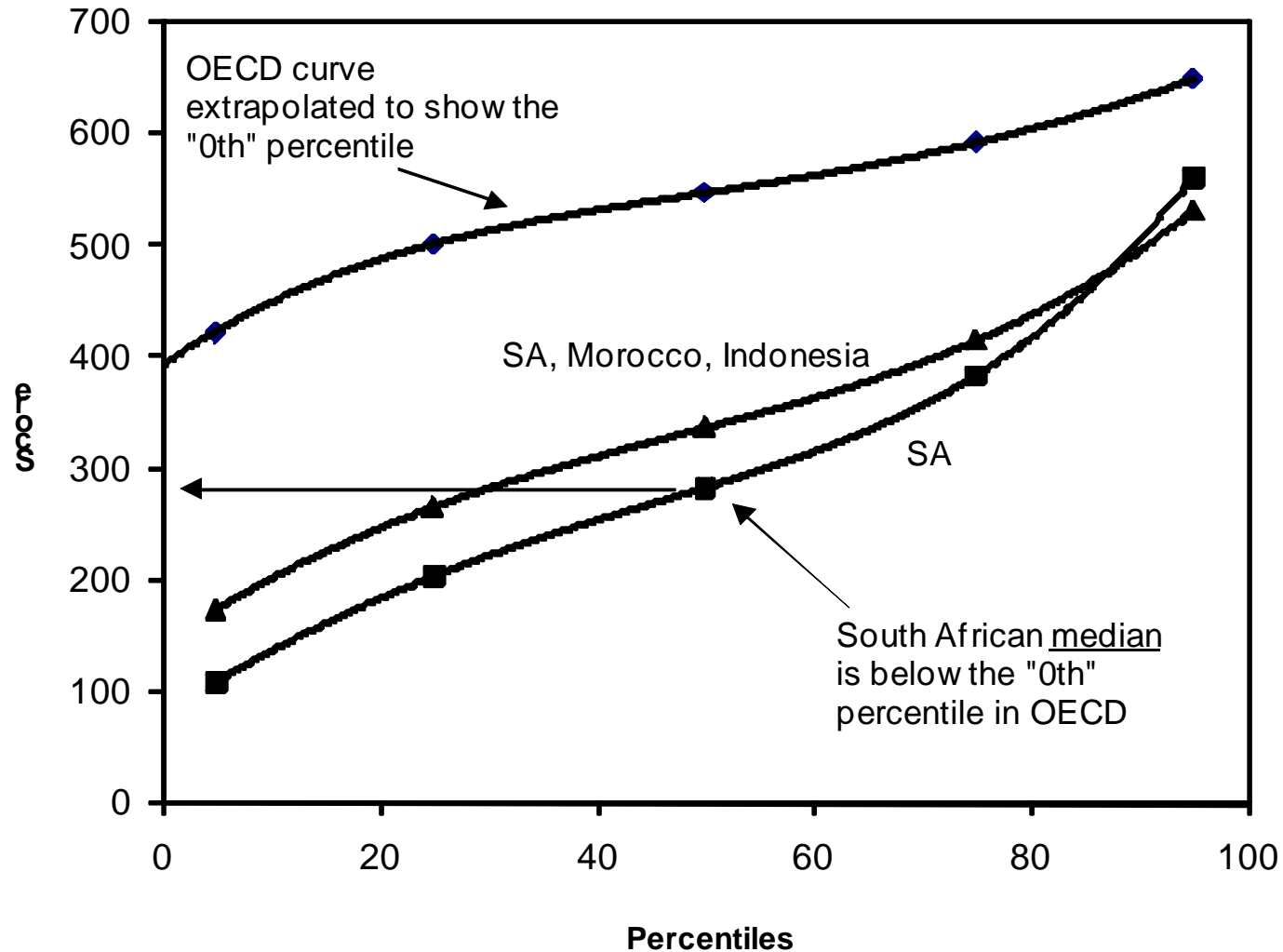
## 2. Need to focus on learning

Enrollment / access targets in poor countries are already at 95% of high-income countries

But average kids in poor countries learn less than 97% of kids in rich countries (median kid in poor countries is at 3rd percentile of kids in rich countries!)

# Motivating a basic look (continued)

## PIRLS 2006 Results



## Motivating a basic look *(continued)*

**If your country has participated in an international or regional exam, refer to that. Problems of low performance refer to the early grades and to reading.**

## Motivating a basic look *(continued)*

Consider a mini-EGRA: Either do it yourself or have someone do it

Take a story from a grade 1 book, and have some grade 2 or 3 kids in poor rural schools try to read it to you. See what happens

If poor reading is confirmed, perhaps show it to one or two Ministry officials, by inviting them or recording and taking some pictures



# Carrying out an assessment

When done with motivation, and having gotten a little funding and “permission,” do a real assessment...

- Motivating a basic look
- **Carrying out an assessment** (see beginning of presentation)
- Doing the dialogue, elements of dialogue

One point: may want to accompany EGRA with some data on opportunity-to-learn, e.g., instructional time (see Abadzi); this is important

# Elements of dialogue

Once done with the assessment, use the results to do real dialogue and design...

- Motivating a basic look
- Carrying out an assessment
- **Doing the dialogue, elements of dialogue**

## Elements of dialogue *(continued)*

- Results will be reasonably rigorous so will underpin a real concern
- Dialogue should restate the general “motivational” points
- Then refer to the findings, focus on the point of real weakness
  - e.g., children in grade 3 can’t even recognize letters
  - Or, they do fine on the letters but lack fluency, etc.
  - Then use this to motivate dialogue and focus on the techniques discussed by Sylvia Linan-Thompson

## Elements of dialogue *(continued)*

- Dialogue should probably aim at funding and “getting permission” for a pilot activity to fix the problems, e.g., Center for Excellence in Teacher Training (CETT) in Latin America, Aga Khan Foundation’s Education for Marginalized Children in Kenya (EMACK II) project
- Should focus on explicit instructional technique in reading
  - Common complaint: “in our country, reading as such is no longer taught”
  - Even in USA: small fraction of universities teach the elements of reading, as shown by Sylvia Linan-Thompson!
  - Dialogue should eventually include all pre- and in-service training

## Elements of dialogue *(continued)*

- So, pre- and in-service training need to take on board the reading issues (see CETT approach in Latin America)
- If curriculum does not address reading explicitly in terms of the “big 5” then “curricular space” needs to be created via dialogue
  - How? Discuss in your sessions!
- This includes allotting enough TIME (see Helen Abadzi’s presentation)
  - Current time use in developing countries:  $\frac{1}{2}$  or  $\frac{1}{4}$  as much and as effective as in developed countries
  - Create some time (quality and quantity) at least for reading
- These are all the things a dialogue campaign should consider

# Policy dialogue on EGRA

1. Importance of awareness-building
2. Stages in awareness-building and problem-solving
3. Some issues to consider in planning the dialogue

# Issues in planning the dialogue

- Who are the key allies and spokespeople?
  - In other cases,
  - In favor: NGOs, teachers themselves, Ministry of Finance, parents
  - Some resistance: “education establishment” – maybe old-style curricular planners, etc.
- Media
  - What venues to get out the message about reading?
  - TV talk shows? Make a video? Appear on radio talk shows? Appear in teacher seminars?
  - How much dialogue with civic leaders, parents, “town hall meetings”?
- Educating / dialogue with teachers, of course
- How much to invest? Treat it like a real, planned, campaign!!
- Get help from real media and public relations specialists?