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Indicators and benchmarks for early grade reading and mathematics: The case of Northern Nigeria

CIES Conference ♦ March 11, 2013

Northern Nigeria Education Initiative (NEI)

- USAID-supported initiative to strengthen government capacity to deliver basic education services (2009-2013)
- Data from early grade reading and mathematics assessments used to inform education strategic planning and budgeting
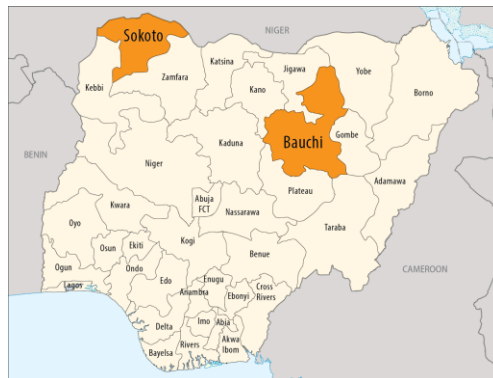
Learning assessments in Northern Nigeria

- **Early Grade Reading Assessment (EGRA) in Hausa** (March 2011)
  - EGRA assesses foundational reading skills shown to be predictive of later reading achievement
  - Primary 3 learners in government schools (secular and Islamiyya)

- **Early Grade Mathematics Assessment (EGMA)** (May 2012)
  - Key numeracy skills including number identification, quantity discrimination, missing number, addition and subtraction
  - Primary 2 and Primary 3 pupils in secular and Islamiyya schools

→ Focus throughout has been on capacity-development, sustainability, and using data to improve decision-making

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Developing learning benchmarks: Nigeria case study

- **Objective:** To develop contextually specific indicators and benchmarks for early grade reading (Hausa) and math to be included in State education strategic plan M&E framework
  - Track progress over time
  - Way for the State to hold itself accountable
- **Process:** Workshop held with education officials (MOE, State Universal Basic Education Board) and other stakeholders (Colleges of Education)
  - Used data gathered from previously conducted learning assessments to identify appropriate benchmarks
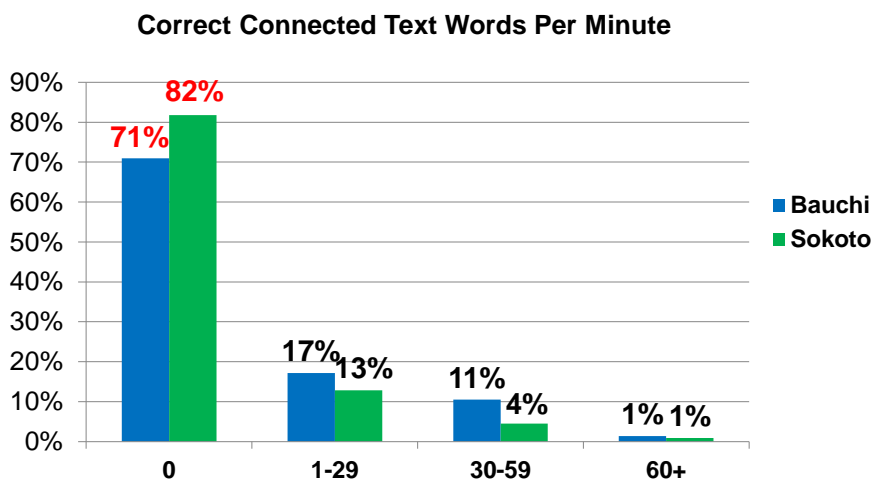
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Process of identifying reading benchmarks

- Focused on oral reading fluency and related reading comprehension

1. Wata rana Musa da abokinsa Ali suka haɗu don su ci shinkafa.	12
2. Musa ya yi zarin loma, sai shinkafa ta sarƙe shi.	22
3. Sai ya fara tari. Ali ya damu ƙwarai.	30
4. Sai ya yi Sauri ya kawo masa ruwa ya sha.	40
5. Bayan Musa ya sha ruwa, sai suka gama cin shinkafarsu. Sai suka ruga a guje wajen yin wasar ƙwallo.	59

Snapshot of outcomes: Oral Reading Fluency (ORF) Results

Correct Connected Text Words Per Minute

Bauchi, Sokoto

- 0: 71%, 82%
- 1-29: 17%, 13%
- 30-59: 11%, 4%
- 60+: 1%, 1%

Sample size: 4,023 pupils total in two States

Process of identifying reading benchmarks

- Identified average oral reading fluency scores of children who read the passage with at least 80% comprehension

Average ORF scores of children reading with at least 80% comprehension		
Reading Skill	**Bauchi** *(n=109)*	**Sokoto** *(n=51)*
Oral reading fluency (average correct words per minute)	61.8	63.0

Key Indicator: Proportion of pupils who, by the end of two grades of primary schooling, demonstrate they can read and understand grade-level text in Hausa				
End of P2 – Hausa Reading	**Proposed Benchmark for Oral Reading Fluency (CWPM)**	**% at benchmark March 2011**	**% at benchmark May 2013**	**Proposed target for the end of 2015 academic year***
Non-Reader	0	Bauchi – 71% Sokoto – 82%	To be determined	50%
Emergent Reader	1-31s	Bauchi – 18% Sokoto – 13%	To be determined	40%
Beginning Reader	32-61	Bauchi – 10% Sokoto – 4%	To be determined	5%
Reader	62 or higher	Both States – 1%	To be determined	5%

Math indicators and benchmarks

- Different processes used because there is no single measure (like oral reading fluency) that can be considered "the" defining indicator for measuring mathematics achievement
- Indicators and benchmarks identified for all skills measured in the EGMA; 3 were included in the State monitoring and evaluation (M&E) plan (missing number, addition and subtraction levels 1 and 2)

8

Outcomes

- Empowering for government officials and education providers to be actively involved in identifying and agreeing on benchmarks
- Ownership of the results, which were adopted for inclusion into state strategic plan monitoring and evaluation framework
- Awareness of the lack of clear performance standards for reading and mathematics in the curriculum

9

Issues for discussion

- **Reading benchmarks**
  - How can we measure comprehension more comprehensively – yet still gather data in a timely and efficient manner at the lower grades?
  - For many languages, we do not yet know what an "appropriate grade-level text" is
- **Mathematics benchmarks**
  - No one skill can serve as *the* indicator against which to measure progress.
  - What are the pros/cons of using many indicators? Of a composite score?

Issues for discussion

- **Benchmarks may change**
  - Although today a child in Northern Nigeria appears to need to read an average of 62 words per minute to read Hausa with comprehension in Primary 3, this could change as teaching improves.
- **Performance standards**
  - Should serve as the basis for indicators and benchmarks, but do not exist in many countries, particularly for reading.
- **Identification of performance targets**
  - Requires data over time. Need to know what is possible with improved instruction and support.

More information

Reports and instruments available at:

www.eddataglobal.org

Search: Nigeria

Alison Pflepsen

Research Education Analyst

(202) 728-2461

apflepsen@rti.org

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