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

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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

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
**Process of identifying reading benchmarks**

- Focused on oral reading fluency and related reading comprehension

1. Wata rana Musa da abokinsa Ali suka hadu don su ci shinkafa. 12

2. Musa ya yi zarina loma, sai shinkafa ta sarke shi. 22

3. Sai ya fara tarri. Ali ya danu kwarai. 30

4. Sai ya yi Sauri ya kawo masa ruwa ya sha. 40

5. Bayan Musa ya sha ruwa, sai suka gana cin shinkafarsu. Sai suka ruga a guje wajen yin wasar kwallo. 59

**Snapshot of outcomes: Oral Reading Fluency (ORF) Results**

![Bar chart showing correct connected text words per minute for Bauchi and Sokoto]

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

<table>
<thead>
<tr>
<th>Reading Skill</th>
<th>Bauchi (n=109)</th>
<th>Sokoto (n=51)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral reading fluency</td>
<td>61.8</td>
<td>63.0</td>
</tr>
<tr>
<td>(average correct words per minute)</td>
<td></td>
<td></td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>End of P2 – Hausa Reading</th>
<th>Proposed Benchmark for Oral Reading Fluency (CWPM)</th>
<th>% at benchmark March 2011</th>
<th>% at benchmark May 2013</th>
<th>Proposed target for the end of 2015 academic year*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Reader</td>
<td>0</td>
<td>Bauchi – 71% Sokoto – 82%</td>
<td>To be determined</td>
<td>50%</td>
</tr>
<tr>
<td>Emergent Reader</td>
<td>1-31s</td>
<td>Bauchi – 18% Sokoto – 13%</td>
<td>To be determined</td>
<td>40%</td>
</tr>
<tr>
<td>Beginning Reader</td>
<td>32-61</td>
<td>Bauchi – 10% Sokoto – 4%</td>
<td>To be determined</td>
<td>5%</td>
</tr>
<tr>
<td>Reader</td>
<td>62 or higher</td>
<td>Both States – 1%</td>
<td>To be determined</td>
<td>5%</td>
</tr>
</tbody>
</table>
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)

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
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

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