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The Early Grade Reading Assessment: Assessing children's acquisition of basic literacy skills in developing countries

The Early Grade Reading Assessment (EGRA), administered individually in about 15 minutes, measures the most basic foundation skills for literacy acquisition in the early grades. The assessment was developed by the Research Triangle Institute (RTI) through funding provided by the United States Agency for International Development (USAID) and the World Bank (Gove & Wetterberg, 2011), in addition to resources provided by RTI.

Origins and context

Assessment data of early grade literacy in low-income countries reveal that many students are not mastering the basic skills of reading (Gove & Cvelich, 2011). In fact, teaching young children to read is not only the foundation of improving educational outcomes, but also has important implications for future learning. If children do not learn to read in the early years, they may fall further behind in later years because they cannot read printed information, follow written instructions or communicate in writing (Gove & Wetterberg, 2011).

Given the low level of basic literacy skills in less-developed countries, national-level assessments are emerging that test the foundation literacy skills children need to acquire in the early grades. These foundation skills are traditionally not measured by large-scale international assessments, which assume children are already literate (Wagner, 2011). By measuring the level of students' basic reading skills, stakeholders such as policy makers, educators and partner organisations could become more aware of the low level of literacy acquisition. It is hoped that such awareness can lead to discussions to address the problem (Gove & Wetterberg, 2011).

In the context of this emerging focus on measuring basic literacy skills, EGRA was developed to provide a battery of assessments of basic reading skills for developing countries to monitor the status of early reading in primary schools. The assessment tool was first implemented in The Gambia and Senegal in 2007 (Gove & Wetterberg, 2011). Since then, the reading assessment methodology has been adapted for use in more than 60 countries, in 100 languages, as of March 2014.

The EGRA instrument is typically adapted for use in a particular country and language. The majority of EGRA applications are funded by donor agencies and non-governmental organisations (NGOs), while RTI or other NGOs provide technical assistance (RTI International & International Rescue Committee, 2011).

Purpose

The original purpose of the EGRA instrument was to be a sample-based national- or system-level diagnostic measure. It aimed to examine gaps in reading competencies among students to inform education ministries and partner agencies regarding system needs for improving teacher professional development and pre-service programs. However, EGRA has been used to address a wider range of assessment needs since its first application. These needs include a snapshot of performance based on a random sample, impact evaluation and (with modifications by the teacher according to instructional practice) classroom assessment purposes (Gove & Wetterberg, 2011).

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Typically, EGRA is designed to test reading skills all children must have, and is therefore not specific to a curriculum (Frazier & Pflepsen, 2012). However, the instrument can be adapted to align with national or local standards especially when EGRA is used to monitor individual student progress (Gove & Wetterberg, 2011).

Measurement objective

There are ten standard subtasks within the EGRA instrument. The details of each task are summarised in Table 1. Countries can select the subtasks that are appropriate to their assessment program's language, context and purpose (RTI International & International Rescue Committee, 2011).

Table 1. EGRA subtasks

Subtask	Early reading skill	Skill demonstrated by students' ability to:
Concepts about print	Knowledge of print	Indicate text direction, concept of word, or other basic knowledge of print
Phonemic awareness: identification of onset/rhyme sounds; phoneme segmentation	Phonemic awareness	Identify initial or final sounds of words or segment words into phonemes (words are read aloud to student by assessor) (not timed)
Oral vocabulary	Knowledge of Vocabulary	Point to parts of the body or objects in the room to indicate understanding of basic oral vocabulary
Letter identification:		
Letter name	Letter recognition	Provide the name of upper- and lowercase letters presented in random order (1 minute)
Letter sound	Letter-sound correspondence	Provide the sound of upper- and lowercase letters presented in random order (1 minute)
Syllable reading	Alphabetic principle	Identify legal syllables in random order
Non-word reading	Alphabetic principle	Use knowledge of legal syllables and letter sound correspondence to read non-words (also known as nonsense words) (1 minute)
Familiar word reading	Automatic word reading	Read simple and common words (1 minute)
Oral reading fluency (paragraph reading) with comprehension	Oral reading fluency and comprehension	Read a narrative or informational text with accuracy, little effort, and at a sufficient rate and respond to literal and inferential questions about the text they have read (1 minute for reading part)
Listening comprehension	comprehension	Respond correctly to literal and inferential questions about a text read to the student (not timed)
Dictation	Alphabetic principle	Use knowledge of letter sound correspondence to write a sentence that was read by the assessor (grammar can be assessed but should not be a focus) (not timed)

Note. Adapted from 'Guidance notes for planning and implementing EGRA,' by RTI International and IRC, 2011, p.20. The shaded subtasks are the core subtasks.

Some countries use the Snaphot of School Management Effectivess (SSME) in conjunction with EGRA to produce a comprehensive picture of school-related factors that may influence students' literacy acquisition. The SSME is an instrument that yields a multifaceted picture of school management practice in a country or region (RTI International, 2010). Information that can be collected through the SSME is summarised in Table 2. Countries can choose to use parts of the SSME instrument according to their assessment program's context and purpose.

Table 2. Summary of Snapshot of School Management Effectiveness

Data collected	Pedagogical approaches used; time on task; interactions among students, teachers, administrators, district officials, and parents; record keeping; discipline; availability and condition of school infrastructure; availability of pedagogical materials; and safety
Instruments	Head teacher/principal questionnaire; Teacher questionnaire; Student questionnaire; Parent questionnaire; Mini-EGRA; School observation; Classroom inventory; and Classroom observation.

Note. Adapted from 'Snapshot of School Management Effectiveness frequently asked questions,' by RTI, 2010.

Target population and sampling methodology

EGRA targets students of Grades 1 to 3. To obtain a random sample of the target population, multi-stage sampling is carried out, typically two- or three-stage sampling by selecting schools, (and grades/classes in the case of three-stage sampling) and then students. Since EGRA tools have been used to fulfil a diverse range of assessment needs, the sample size can vary depending on the assessment purpose, geographical circumstances and budget limitations (RTI International & International Rescue Committee, 2011).

Assessment administration

EGRA is usually administered at school by independent trained assessors. However, in cases where EGRA is used for classroom assessment, it can be administered by classroom teachers (RTI International & International Rescue Committee, 2011).

The frequency of assessment varies depending on the purpose of conducting EGRA. For example, for the purposes of 'system diagnostic' and 'snapshot' measures, EGRA can be a one-time assessment, while it will be necessary to conduct both baseline (pre-treatment) and endline (post-treatment) surveys if the purpose is to evaluate the impact of reading interventions (Gove & Wetterberg, 2011).

Reporting and dissemination

In EGRA, the results are typically analysed using descriptive statistics, such as mean scores for each subtask and percentage of children scoring zero. Table 3 shows an example of such an analysis from Indonesia.

Table 3. Example of EGRA results summary

	Letter naming (per minute)	Familiar words (per minute)	Non-words (per minute)	Oral reading fluency (per minute)	Reading comprehension (maximum score 5)	Listening comprehension (maximum score 3)
Overall mean	85.69	70.42	35.57	68.09	3.25	1.52
Children scoring zero	0.50%	1.85%	3.69%	1.34%	3.31%	16.77%

Note. Adapted from 'USAID PRIORITAS' by RTI, 2013, p. 2.

Table 3 shows that very few assessed children scored zero on the letter naming, familiar words, oral reading fluency or reading comprehension subtasks, but 16.77 per cent of the children could not answer correctly any of the questions in the listening comprehension subtask.

EGRA results are usually disaggregated by specific characteristics of interest such as grade, gender and region. Where possible, results can be compared against benchmarks that have been set either locally or internationally. Examples of ways in which results are reported include:

- Grade 2 mean scores by subtask over time;
- Percentage of Grade 3 students who can read the reading comprehension passage within the allotted time and correctly answer four out of the five reading comprehension questions; and
- Percentage of students who scored zero by grade and region.

Comparisons

Though EGRA is standardised in its research foundations and underlying principles, having uniform subtasks does not necessarily mean that the assessments are comparable across countries and languages. In fact, differences in language structure and complexity make direct comparison of the results difficult, particularly direct comparison of the fluency (item-per-minute) scores. For these reasons, EGRA's developers generally advise against comparing subtask results across countries and languages, although they argue that it is valid to compare the percentages of children obtaining zero scores across languages and countries, because it is reasonable to consider the inability to read at all as comparable across these different contexts (Gove & Wetterberg, 2011).

EGRA's developers also suggest that results can be used for indirect comparisons, where the objects of comparison are not percentages of children successfully completing particular subtasks but percentages of children reaching locally established benchmarks; and that this type of comparison may provide countries and development partners with common ways to measure and discuss progress towards a global-level goal that addresses learning levels (Wagner et al., 2012).

Dissemination strategy: Country level

In general, dissemination activities at the implementing country level will be determined by two main factors: the purpose of EGRA, and the audience. Table 4 shows some of the activities that could be useful depending on purpose and audience.

Table 4. Dissemination activities by type, purpose and audience

Assessment type	Purpose	Audience	Possible activities
Reading 'snapshot'	Raise awareness, mobilise communities	Ministry, donors, civil society, community leaders, academics, practitioners, teacher unions	Policy dialogue workshop Social mobilisation or mass media campaign Policy brief Journal article Conference presentation
National or system-level diagnostic	Policy reform, intervention, or program design	Ministry, donors, civil society, community leaders, academics, practitioners, teacher unions	Policy dialogue workshop Curriculum- or standard-review workshop Social mobilisation or mass media campaign Project design workshop Policy brief Press release Journal article Conference presentation
Impact evaluation	Inform on impact of project, inform program revisions	Project staff, donors, ministry, academics, practitioners	Project progress meeting Project revision meeting Media event Press release Journal article Conference presentation
Classroom assessment	Inform instructional decisions, inform on student progress	Teachers, principals, parents	School community or parent meeting Teacher professional development workshop

Note. Adapted from 'Guidance notes for planning and implementing EGRA' by RTI International & International Rescue Committee, 2011, p. 85.

Dissemination strategy: International level

In addition to the above dissemination strategy, RTI encourages countries to make their reports of EGRA results publicly available on the EdData II website (https://www.eddataglobal.org/) to share their experience with others and to reach a broader range of audience at international level.

Influence

Common approach and flexible design

EGRA is one of the best-known current examples of reading assessment in developing countries (Wagner, 2011). This might be due to the fact that EGRA has a reasonably common approach grounded on core foundation skills, while at the same time it is flexible in its design, taking into account the linguistic context of the implementing country (Gove & Wetterberg, 2011). This means that implementing countries do not necessarily have to lock into an internationally agreed model. Perhaps these characteristics have made the EGRA tools appealing and accessible to those countries.

Influence on policy and practice

When EGRA applications have shown very low levels of basic literacy skills, the results have prompted policymakers and educators to search for solutions to address these low levels, including developing teaching and learning strategies and materials.

In 2008, for example, Nicaragua embarked on national-level diagnostic assessment of reading using the EGRA instrument. The purpose was to analyse the reading ability of children in the early grades and to examine the factors that may be responsible for those outcomes. After the EGRA results were analysed, Nicaragua's ministry not only took immediate, positive steps to address the quality of instruction, but also reinvigorated its focus and efforts on quality improvements at the elementary school level (Gove & Wetterberg, 2011).

Another example is Liberia where EGRA was used in 2009 as the primary source of data to inform instruction and to gauge efficacy of reading instruction at the individual, classroom, school, family and community levels. In this instance, a modified, curriculum-specific EGRA was used as a classroom tool for continuous assessment. As a tool for classroom assessment EGRA facilitated setting reading performance goals and provided a benchmark for teachers, schools, administrators, families and other community stakeholders to evaluate the effectiveness of classroom reading instruction. EGRA tools also provided a link to instruction as teachers could assume that students' scores on the EGRA measures were directly related to the general reading outcome goals, and that increased scores meant that the reading instruction contributed to students' learning. If there was no increase in student scores over time, then teachers understood that they needed to modify instruction (Gove & Wetterberg, 2011).

While the use of EGRA may not be the only cause of the shifting educational priority in Nicaragua, or the improvement of classroom assessment in Liberia, these examples seem to demonstrate that EGRA has contributed to the actions that could bring about impact on educational policy and practice. For additional examples, please see country level reports at www.eddataglobal.org, as well as other references (Gove, Samir, Piper, & Ralaingita, 2013).

The open-source, flexible and locally driven nature of EGRA and related tools, including Early Grade Mathematics Assessment (EGMA) (Gove et al., 2013) and Early Grade Writing Assessment (EGWA), the latter under development by UNESCO, has perhaps encouraged low-income countries in particular to use the tools to track and monitor learning outcomes in the lower grades.

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http://www.acer.edu.au/gem