The Critical Importance of Early Grade Reading and Assessment

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- The science of reading
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» THE IMPORTANCE OF EARLY GRADE READING

Teaching children to read at a young age is the cornerstone of improving educational outcomes.

Children who do not learn to read in the early grades struggle to develop more advanced skills, which are often absorbed through reading.

Unable to understand printed information, follow written instructions and communicate well in writing, these children risk falling further and further behind those who can read effectively in later grades.¹

Without intervention the literacy gap between good and poor readers widens. Effective readers absorb increasing amounts of written information, enhancing their vocabularies and improving their comprehension, while ineffective readers lose motivation, reading a fraction of the amount and remaining unable to comprehend more complex information (the so-called Matthew Effect).²

Source: Crouch, L. 2012. Why Early Grade Reading: An Economist’s Perspective. Presentation given at ‘All Children Reading Workshop’, Kigali, Rwanda, 28 February 2012

Fig. 1. The Matthew Effect in Reading
Children below a certain level by the end of Grade 1, stay behind forever, and the gap widens.
And, if they cannot read, they fall behind in everything else.

Data from the US

Grade in years and months (thus 1. is 6 months into Grade 1)

» THE SCIENCE OF READING

Reading skills are acquired in phases and all learners of alphabet-based languages pass through the same stages.

In the first phase children build emergent literacy skills by developing letter-sound knowledge, word knowledge and simple decoding of letters into sounds.

Children who do not develop the ability to read proficiently in early grades are less likely to complete compulsory education than those who do.

Research analysing the link between dropout and the literacy skills of 4,000 students in the United States found that students who are unable to read proficiently by the end of the third grade are four times more likely to leave school without a diploma than proficient readers. 23 per cent of children who did not develop basic literacy skills failed to gain a diploma.³

Research also suggests that poor readers are more likely to experience behavioural and social problems in subsequent grades and are more likely to repeat grades.⁴

This affects the social and economic wellbeing of these children in future life.

Poor literacy also affects a country’s economic and social wellbeing.

A recent study has found that a 10 per cent increase in the share of children achieving basic literacy increases a country’s annual growth rate by 0.3 per cent. The study also found that a 10 per cent increase in the share of students with advanced literacy skills is associated with 1.3 percentage points higher annual growth.

Improvements in basic literacy combined with an increasing share of students with advanced literacy skills were found to have a particularly strong effect, which suggests that in order to implement imitation and innovation strategies, a country needs a workforce with at least basic literacy skills.⁵

Better literacy at the country level is also associated with a number of other economic, political and social benefits such as improved political participation, health and gender equality.⁶

In the **second phase** children encounter written text and develop a fuller understanding of spelling.

In the **third phase** learners progress to fluency and are able to attribute meaning to written text.  

Learners of different languages pass through the stages of reading acquisition at different rates. For example, mastering the recognition of familiar words and simple decoding takes longer in English than it does in phonetically-spelled European languages.

To understand a sentence a child must be able to read it within the time limit of the working memory.

Given that the working memory can hold seven items for roughly 12 seconds, children must read at between 45-60 words per minute to be able to understand a passage.

If children fail to read at this speed, by the time they reach the end of the sentence, they will have forgotten the beginning.

To be able to analyse texts, children must read fluently. This entails instant word recognition, which requires significant practice in comparing sounds with groups of letters.

**» ACQUIRING THE SKILLS – WHAT SHOULD WE EXPECT?**

*Children can, and should, learn to read with understanding by the end of grade 2*, despite differences in complexity between languages and differences in the contexts in which children are taught to read.

‘Reading with understanding’ includes both the ability to decode (translate sound to print) and understand what is read at the level of words, simple phrases and sentences. While no two children will acquire reading skills at exactly the same rate, all are able to reach this stage in the early grades.

Failing to read with understanding by grade 2 should be considered a ‘warning light’ for action to be taken to correct this by grade 3.

Available evidence suggests that student learning, including the acquisition of literacy skills, is relatively low in most low-income countries.

The leading international assessments on literacy and mathematics, Progress in International Reading Literacy Study (PIRLS) and Trends in International Mathematics and Science Study (TIMSS), show that the average student in low-income countries is performing well below students in high-income countries.

In fact, the average student in low-income countries performs worse than 95 per cent of students in wealthier countries.

Primary school completion rates in low-income countries are far lower than those in high-income countries, with low-quality schooling the second most-cited reason for dropout.

Concerns about the quality of education received by students in developing countries have led to demands for specific and simple methods to assess learning in these countries.

**Figure 2. Primary School Completion in High-Income and Low-Income Countries**


**» EARLY GRADE READING ASSESSMENT**

*In response to these demands Research Triangle International has developed an Early Grade Reading Assessment (EGRA), which is designed to enable countries to measure, in a systematic way, how well children in the early grades of primary school are acquiring literacy skills.*

The tool is flexible enough to be adapted to the particular linguistic requirements of each language while retaining similar characteristics on each application, allowing for comparison across countries and languages.

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11 Ibid
12 Ibid
EGRA works on the basis that learners of all languages pass through the same phases and that commonalities exist in the building blocks of early reading across languages.

EGRA draws on these principals by breaking down each assessment to the building blocks of reading acquisition.

In this manner, EGRA can identify the pre-reading and reading skills acquired by each child and those that must be developed, whether or not the child can read.

The test is administered orally and takes about 15 minutes to assess a child's progress towards learning to read.\textsuperscript{13}

The subtasks and skills that can be assessed using the EGRA tool, as well as the corresponding reading level and grade at which these skills should be acquired, are shown in; Table 1. EGRA Subtasks and Skills

**Source:** Gove, A. dan A. Wetterberg. 2011.

<table>
<thead>
<tr>
<th>Skill and approximate timing</th>
<th>EGRA subtask</th>
<th>Skill demonstrated by students' ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency literacy:</td>
<td>Concept about print</td>
<td>Indicate text direction, concept of word, or other basic knowledge of print</td>
</tr>
<tr>
<td>Birth to grade 1</td>
<td>Phonemic awareness:</td>
<td>Identify initial or final sounds of words or segment words into phonemes (words are read aloud to student by assessor)</td>
</tr>
<tr>
<td>Identification of onset/rime sounds; phoneme segmentation</td>
<td>Oral vocabulary</td>
<td>Point to parts of the body or objects in the room to indicate understanding of basic oral vocabulary</td>
</tr>
<tr>
<td></td>
<td>Listening comprehension</td>
<td>Respond correctly to questions about a passage read aloud to the student by the assessor</td>
</tr>
<tr>
<td>Decoding:</td>
<td>Letter identification: names and/or sounds</td>
<td>Provide the name and/or sound of upper-and lowercase letters presented in random order</td>
</tr>
<tr>
<td>Beginning grade 1</td>
<td>Syllable naming</td>
<td>Identify legal syllables presented in random order</td>
</tr>
<tr>
<td></td>
<td>Nonword reading</td>
<td>Identify nonwords composed of legal syllables presented in random order</td>
</tr>
<tr>
<td></td>
<td>Familiar word reading</td>
<td>Read a list of words drawn from a corpus of frequent words presented in random order</td>
</tr>
<tr>
<td></td>
<td>Oral reading fluency (paragraph reading) with comprehension</td>
<td>Read narrative or informational text with accuracy, with little effort, and at a sufficient rate and respond to literal and inferential questions about the text they have read</td>
</tr>
<tr>
<td>Confirmation and fluency:</td>
<td>Dictation</td>
<td>Translate sound to print and spell correctly</td>
</tr>
<tr>
<td>End of grade 1 to end of grade 3</td>
<td>Maze or cloze</td>
<td>Silently read a passage and select an appropriate missing word (multiple choices are provided in the case of maze)</td>
</tr>
</tbody>
</table>

\textsuperscript{13} Gove, A. and A. Wetterberg. 2011.
Second, EGRA can also be used as a tool for impact evaluation, which measures the effects of a particular policy intervention. This is often costlier than other applications as it entails both pre- and post-intervention assessments.

Finally EGRA can be used as a form of classroom assessment.

This can be in the form of mastery checks, whereby teachers conduct regular checks to verify that learning skills that have been taught, or progress monitoring, which entails the monitoring of student progress against norms and benchmarks for grade.

EGRA has now been used in each of these ways in more than 50 countries and 70 languages. EGRA assessments have generally shown very low levels of basic literacy, but have acted as a catalyst to prompt educators and policy makers in many of these countries to search for solutions to the problems identified.  

**EGRA IN INDONESIA**

Two Early Grade Reading Assessments have been undertaken in Indonesia with the support of USAID.

The first was administered to 4,233 grade 3 students in 184 schools in 7 provinces between September and December 2012.

Students were assessed on 6 subtasks that measure early reading skills that have been found to be predictive of later reading ability and that can be improved through effective teaching.

These included letter knowledge, familiar word reading and reading comprehension. The findings show that grade 3 children can read words in Bahasa Indonesia.

On average third grade students could read 70.42 familiar words per minute in isolation and 68.09 words per minute in connected text. However, they cannot always understand what they read.

Just under half were found to comprehend the texts they were reading to a satisfactory level (defined as answering at least 4 out of 5 comprehension questions correctly). In addition, many children were found to struggle to understand spoken Indonesian. On the assessment of listening comprehension, students could answer just over half of questions correctly on average.  

The findings of the second EGRA, carried out between March and April 2014, were broadly similar to those of the first.

The second assessment, administered to 4,812 grade 2 students, showed just under half of children to be able to read fluently with comprehension (again, defined as being able to answer 4 of 5 comprehension questions correctly).

A further 26 per cent were able to answer 3 of the 5 comprehension questions correctly. Just 5.8 per cent of students were found to be unable to read with any comprehension.

**Figure 3. Summary of Results from EGRA 2014**


Similar to the first EGRA, children’s listening comprehension was found to be an issue, with children understanding only about half of what they heard.  

Both assessments reveal that certain groups are reading at a better level than their peers.

In particular, children in Java and Bali are reading with greater comprehension than children in other parts of Indonesia. Children from eastern Indonesia were found to be reading with the lowest level of comprehension. Both EGRAs also show that girls are outperforming boys and that students from urban areas are outperforming those from rural areas.

In particular, a significant gap in reading ability between children in remote areas and those in non-remote areas was revealed.

Other factors, including pre-school attendance, greater household wealth and being the correct age for the grade were found to be associated with better EGRA performance.

Children whose mother tongues were used as the language of instruction are also more likely to be reading with fluency and comprehension than those who speak a different language at home to that used in the classroom.

Although the two EGRAs reveal that children are reading at a relatively high level, significant improvement in the teaching of reading is required, if all Indonesian children are to reach the target of reading with comprehension by the end of grade 2.

Both EGRAs were accompanied by assessments of teaching which, while revealing some good practice, show that many teachers are not employing teaching strategies that produce strong readers.

Combined with the EGRA results, these assessments reveal that in classrooms in which children are building strong reading skills, teachers provide feedback, encourage discussion and alter their approaches according to student feedback.

In many classrooms these methods are not being applied and a large number of teachers lack the knowledge, understanding and strategies required to teach reading well.

According to the first survey, only slightly more than a third of teachers were providing specific and active instruction to students to build word knowledge, word analysis and word recognition.

An even smaller percentage was observed teaching specific text-level comprehension strategies.

The assessment also found that less than half of teachers provide an opportunity for children to practice reading during lessons.

Many teachers fail to use assessment effectively and do not understand the reading standards that they should be supporting their students to meet.

Overall, just 17.9 per cent of teachers are teaching reading effectively according to the survey’s criteria.

The second survey, which assesses general pedagogical methods rather than reading-specific pedagogy, paints a more positive picture of instruction.

It notes that a large proportion of teachers are employing desirable pedagogical methods such as checking for student understanding and providing further assistance.

However, as with the first survey, it highlights that student participation remains largely passive.

**HOW CAN EARLY GRADE LITERACY BE IMPROVED?**

Improving teacher training colleges must be at the heart of improving literacy teaching and learning.

University Faculties of Education (LPTKs) are struggling in their task to produce teachers that are well prepared to teach reading.

Insufficient time is spent on training new teachers to teach reading and new teachers are not receiving adequate instruction on how to develop phonemic awareness, phonics, fluency, vocabulary, knowledge, and text comprehension skills in young children.

Just 29 per cent of primary teacher educators observed in a further study of teacher training in LPTKs conducted alongside the 2012 EGRA were found to be modelling effective instructional practices to students.

None of the instructors surveyed had any prior experience of teaching reading or language in primary school classrooms.

Practical field experience, which is an important step in preparing teachers to use and consolidate the knowledge acquired in LPTKs, was found to be generally limited in length and poorly planned.


18 USAID PRIORITAS. 2013.

Moreover, there are no standards that graduates must achieve to be considered accomplished reading teachers. Ongoing professional development opportunities available to teachers were also found to be limited.  

_Given the strong correlation between active, student-centred teaching methods and reading performance revealed by the 2014 EGRA, ensuring that more teachers apply an active pedagogical approach across subjects could have a strong impact on literacy levels._  

The wider application of specific teaching methods targeted at certain sub-skills could also bring about improvements in comprehension.

For example, greater use of direct vocabulary instruction, including providing contextual definitions and generating examples/non-examples, rather than drilling and memorisation, would support the development of better-rounded vocabularies and lead to greater understanding.

Comprehension strategies that go beyond what is explicit in the text, including strategies for prediction and summarising, should be used before, during and after reading.

To obtain fluency, which is key to comprehension and entails reading and re-reading books on a regular basis, children should be given more opportunities to engage in sustained reading activities.

This involves increasing the time dedicated to reading each day.  

In fact, it is recommended that at least an hour of class time be dedicated to reading instruction and reading practice every day.

_Schools can encourage students to read in a number of ways._

These include making reading part of the curriculum through, for example, a guided or independent reading hour, creating a literacy-rich environment through libraries and book corners and developing supporting activities such as book clubs.

Books provided to children should not be only textbooks and reference books, but stories for “reading for enjoyment”.

The complexity of texts available to students should increase as children’s reading abilities develop.

Increasing parental involvement in their children’s literacy development can also be an effective strategy to encourage reading.

Schools themselves can have a role in this through initiatives such as reading fairs and parent child book clubs.

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**Figure 4: Effect of Having Books at Home on Reading Ability**

Both the school and local government have important roles in increasing the presence of reading materials, through, for example, libraries. 26

**Developing strong literacy skills in the early grades can also be supported by the development of standards and benchmarks for early grade reading.**

Clear and measurable standards for reading do not currently exist in Indonesia.

The results of the EGRA can be used to develop these standards, for example, by setting the benchmark at the skill levels demonstrated by students that are reading at an 80 per cent comprehension on a grade level text.

This could be done at the local level to develop local reading standards.

This will help LPTKs to adjust their courses and teachers to adjust their lessons.

**Further EGRAs can be used to test progress against these benchmarks.**

Teachers could also be supported to conduct regular EGRAs in the classroom as part of ongoing assessment of students’ abilities. Support should also include developing teachers’ capacities to keep records of student reading performance. 27

**Encouraging greater use of students’ mother tongues in instruction in the early grades could help the weakest readers achieve greater comprehension.**

The 2014 EGRA shows that children who use Bahasa Indonesia, the language of instruction in most classrooms, at home are more likely to be reading with fluency and comprehension than those who do not. 28

Before children can learn to read they must build an oral vocabulary.

Students who learn literacy skills in the language they speak at home already have a developed oral vocabulary in that language.

Children who are taught in the early grades using a language that is unfamiliar to them are faced with the double burden of learning a new language while having to build literacy skills in this new language.

A range of evidence from different country contexts suggests that children who learn to read in their mother tongue, liberated from the double burden, acquire literacy skills faster. 29

Once they have mastered reading skills in their first language, they are able to transfer these skills to other languages.

In fact, many studies have shown that children acquire better literacy skills in a second language if they are first taught to read in their mother tongue.

Immersion in a second language before being taught to read in the first can lead to slower literacy development in the second language. 30

**Although the National Education Law states that Bahasa Indonesia is to be used as the medium of instruction, it does allow local languages to be used for instruction in the early grades if required.** 31

Some local legislation, such the Regional Regulation of Papua No. 3, also supports the use of local languages as an introductory language. 32

However, the wording of such legislation, especially the use of terms such as ’if required’ and ’introductory language’, and a lack of additional political support for the use of mother tongues in teaching, lead many communities with low levels of understanding and use of Bahasa Indonesia to feel compelled to use the national language for instruction.

To remedy this situation, greater political support, both in terms of a clearer, more explicit policy and greater logistical support for wider use of local languages in instruction, is needed.

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26 USAID PRIORITAS. 2013.

27 USAID PRIORITAS. 2013.


30 Ball, J. 2011. Enhancing Learning of Children from Diverse Backgrounds: Mother Tongue-Based Bilingual or Multilingual Education in the Early Years. Paris, France: UNESCO.


32 Local Office of Education, Youth and Sport, Papua Province. 2013 Regional Regulation of Papua No.3.
POLICY OPTIONS

**Improve teachers’ ability to teach reading**

Ensure sufficient time is spent on the theory and practice of teaching reading in the University Faculties of Education (LPTKs) that prepare teachers.

In particular, ensure sufficient time is spent developing teachers’ capacities to develop students' text-level skills, including their oral language proficiency, vocabulary, comprehension and fluency.

Encourage new teachers to adopt an active and adaptive teaching style across subjects.

Make sure that LPTKs have staff with prior experience of teaching reading or language in primary school classrooms, preferably also in under-resourced schools in rural and remote areas.

Ensure that trainee teachers are given sufficient supervised teaching practice in classrooms prior to taking up teaching posts and that they receive mentoring support on teaching literacy during their period as novice teachers.

Set standards that LPTK graduates must achieve to be considered accomplished teachers of reading/literacy and train LPMP staff, supervisors (pengawas), and school principals in quality assurance of instruction in pre-literacy (in Early Childhood Development) and literacy (in primary schools).

Increase opportunities for teachers to access ongoing professional development.

**Encourage reading in schools and in the community**

Encourage reading through school-based initiatives such as including reading in the curriculum.

Support parents to become more involved in the development of their children’s literacy skills, possibly including parents to help read to students in the classroom.

Increase access to reading materials through, for example, establishing libraries or providing existing libraries with grade-appropriate books for children in early grades. These books should not be only textbooks and reference books, but also graded readers (stories) for “reading for enjoyment”.

**Set standards and benchmarks for early grade reading**

Develop early grade reading standards based on the results of the EGRA.

Build capacity of stakeholders to support literacy standards: for LPTKs to modify courses and for teachers to incorporate reading skills into their lessons.

Use further EGRA surveys to assess progress against these standards and also to train teachers to give regular reading assessments (formative) in classrooms to provide instructional feedback and information to improve teaching approaches.

**Support greater use of children’s mother tongues as the language of instruction**

Set clearer, more explicit policy on the use of mother tongues as the medium of instruction both at national and local levels.

Support new policy with greater logistical assistance in terms of inter alia teacher training, reading and instructional material development and curriculum design to communities that decide to use local languages for instruction.
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