



WG/GAML/11/2.5b

CASE STUDIES OF COUNTRY-BASED BENCHMARKING FOR PRECURSOR SKILLS IN READING, FOR SDG 4.1.1A A CASE STUDY OF GUATEMALA



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0. Background¹

Guatemala is a Central American country, characterized by its cultural and linguistic diversity. According to the latest census, the country has 14,901,286 inhabitants, distributed among four cultural groups: Ladino (56%), Maya (41.7%), Xinca (1.8%), and Garifuna (0.1%) (Instituto Nacional de Estadística [INE], 2018) (Table 1). Although Spanish is the official language, there is recognition of 25 spoken languages of which 22 are Mayan, being K'iche', Kaqchikel, Mam, and Q'eqchi' the main ones in terms of the number of speakers. The other three national languages are Spanish, Garifuna and Xinca (INE, 2018) (Table 2).

Table 1. Population by cultural group

Cultural groups	Total	%
Ladino	8,346,120	56.0
Maya	6,207,503	41.7
Xinca	264,167	1.8
Garífuna	19,529	.0.1
Other	63,967	0.4
Total	14,901,286	100

Source: (INE, 2018)

Table 2. Population (4 years and older) by language

Language	Total	%
Spanish	9,488,838	70
Maya	4,021,870	29.6
Xinca	2,755	0.02
Garífuna	2,856	0.02

¹ This report was commissioned by the UNESCO Institute for Statistics (UIS) and authored by María Cristina Perdomo Mosquera.

Other	50,578	0.37
Total	13,566,897	100

Main Mayan Languages	Total	%
K'iche'	1,054,818	26
Kaqchikel	411,089	10
Mam	590,641	15
Q'eqchi'	1,127,387	28
• Other (18)	837,935	21
Total	4,021,870	100

Source: (INE, 2018)

Guatemala is young in terms of its population and the establishment of a democratic process. Of the total population, 52% (7,704,401) is between 5 and 29 years old; 11% (1,676,761) is between 5 and 9 years old (INE, 2018). After several military regimes, the democratic era in the country emerged in 1986. However, there was still an internal war, which ended with the signing of the Peace Accords in 1996. These played a crucial role in initiating changes in the country, including the Educational Reform, which aimed to improve the quality and equity of education, taking into account the needs and characteristics of the different cultural groups in the country (Comisión Paritaria de Reforma Educativa [COPARE], 1998).

One of the policies of this reform was the "Promotion of the quality of education" [Fomento de la calidad de la educación], which included: a) the development of mechanisms for evaluating the educational system, b) strengthening of the national student performance evaluation system, c) design and development of flexible formative assessment mechanisms, d) development of sociolinguistic assessments, e) setting indicators of quality of education, and f) strengthening of educational research (COPARE, 1998, p. 70).

Other important policies of this reform, that were crucial for the recognition of the different languages and cultural groups living in the country were: "Multicultural and intercultural education for all" [Educación multicultural e intercultural para todos] and "Additive multilingualism" [Multilingüismo aditivo]. Some of the strategies included in these policies were: a) review and publish educational materials to eliminate stereotypes and introduce inter- and multicultural elements, b) language teaching evaluation and reformulation, c) promotion of indigenous languages knowledge and learning, and d) development of differentiated and context relevant methodologies for primary education

(COPARE, 1998, p. 80). Moreover, these policies found support in the Political Constitution of the Republic of Guatemala, which was reformed five years before by Legislative Decree No. 18-93, since it stated in Article 76 that in schools located in areas where indigenous population is predominant, teaching should preferably be bilingual² (Congreso de la República de Guatemala, 1993).

The government members of COPARE introduced the aforementioned reform proposals. At the same time, USAID Guatemala, through the Basic Education Strengthening Project (BEST, 1990-1997) supported the development of the first student performance evaluation system, while the Ministry of Education (MINEDUC), with support from the World Bank, took it over at the end of the project in 1997, creating the National Program for the Evaluation of Educational Performance (PRONERE; *Programa Nacional de Evaluación del Rendimiento Escolar*) (1998-2004), implemented by Universidad del Valle de Guatemala (UVG).

These actions reflect the efforts that began in the 1990s for the creation of the student performance evaluation systems in Latin America (Ferrer, 2006). These received support from the World Bank, as well as other international organizations, including the initiative "Partnership for Educational Revitalization in the Americas" (PREAL; *Promoción de la Reforma Educativa en América Latina y el Caribe*) (Ferrer & Fiszbein, 2015).

In Guatemala, reading comprehension (and mathematics) began to be assessed in 1992 with norm-referenced tests³ in representative samples of 3rd- and 6th-grade students through PRONERE, funded by USAID BEST, and later implemented with funds from MINEDUC and the World Bank (Ferrer, 2006; Fortin, 2008). These assessments were in Spanish. After a three-year pause (2001-2003), in 2004, reading comprehension was assessed again through PRONERE with representative samples of 1st- and 3rd-grade students, with funding from the USAID IEQ-II/Medir Project, implemented by Juárez & Associates⁴, Inc.

² Teaching should be bilingual in areas where indigenous population is predominant, especially in early grades, however, what is found in schools is that the main language of instruction is Spanish. In practice, there exist a subtractive bilingualism. However, children are bilingual (F. Rubio, personal communication, January 30, 2025).

³ Norm-referenced tests measure a person's performance in relation to the performance of others on the same test (Chang, M., Lim, B.K. (2010). Norm-Referenced Test (NRT). In: Clauss-Ehlers, C.S. (Eds.), *Encyclopedia of Cross-Cultural School Psychology* (pp. 688-689). Springer, Boston, MA. https://doi.org/10.1007/978-0-387-71799-9 291). Items are designed to accentuate performance differences among test takers—not to determine if students have achieved specified learning standards, learned required material, or acquired specific skills (The Glossary of Education Reform. (2014, April 30). *Criterion-Referenced Test*. https://shorturl.at/31n03).

⁴ Most of the projects of USAID mentioned in this case study were implemented by Juárez & Associates, Inc.; in order to make this document easier to read, from now on, only the name of the project will be referred to.

In 2005, the assessments were transferred to the National System for Educational Evaluation and Research (SINEIE; currently the General Directorate of Educational Evaluation and Research, <u>DIGEDUCA</u>⁵) of MINEDUC and, with the technical assistance of USAID/Education Standards and Research Program, reading was assessed using criterionreferenced tests⁶ in representative samples of 1st-, 3rd-, and 6th-grade students. Additionally, Guatemalan students participated in the Second Regional Comparative and Explanatory Study (SERCE; Segundo Estudio Regional Comparativo y Explicativo), an international evaluation promoted by UNESCO (Fortín, 2008), and in which Guatemala has continued to participate⁷. At this point, Reading and Mathematics assessments were also designed and conducted by DIGEDUCA in the major Mayan languages (K'iche', Kaqchikel, Mam, and Q'eqchi'), focusing on 1st- and 3rd-grade students. A year before, Government Agreement of Ministry of Education No. 22-2004, stated that "public and private schools are responsible for delivering multicultural and intercultural education and will be monitored and evaluated by the corresponding Directorates of the Ministry of Education" (p. 14). Thus, DIGEDUCA began to assess reading and mathematics skills in the major Mayan languages.

Since 2006, DIGEDUCA has been responsible for national evaluation, meaning that this Directorate is responsible of designing and constructing national tests. The national reading test is based on the National Base Curriculum (CNB; Currículo Nacional Base), which includes and describes the contents that must be covered in the teaching and learning process of the country. It emerged as part of the Educational Reform and it is based on the development of competencies (Currículo Nacional Base [CNB], 2020, September 29; Mirón, 2017). These are linked with their corresponding performance indicators and contents; the latter are organized into three types of knowledge, namely: declarative, procedural, and attitudinal (Mirón, 2017). For the construction of the test, only declarative and procedural contents are considered, and a specifications table is created to write each one of the items. The specifications table includes: a) reading skill or strategies, b) reading comprehension level, and c) Taxonomy of Marzano (cognitive level). The following table shows an example of a table of specifications for third grade national reading test:

⁵ https://edu.mineduc.gob.gt/digeduca/

⁶ Criterion-referenced tests are designed to assess whether an individual has a particular set of competencies or skills. The focus of interest is the presence or absence of the criterion and not, as in the case of norm-referenced testing, how the individual functions relative to some normative group (Berger, M. (2013). Criterion-Referenced Testing. In: Volkmar, F.R. (Eds.), *Encyclopedia of Autism Spectrum Disorders* (p. 823). Springer, New York, NY. https://doi.org/10.1007/978-1-4419-1698-3 146). These tests measure student performance against a fixed set of predetermined criteria or learning standards—i.e., concise, written descriptions of what students are expected to know and be able to do at a specific stage of their education (The Glossary of Education Reform. (2014, April 30). *Criterion-Referenced Test*. https://shorturl.at/31n03)

⁷ See Annex 1 for more information about reading results of Guatemalan students in SERCE, TERCE, and ERCE.

Table 3. Example of a table of specifications for third grade national reading test

Reading skill or strategies	Reading comprehension level	%	Taxonomy of Marzano (cognitive level)	%
Antonym	Literal	10	Knowledge	10
Context clue	Literal	10	Comprehension	10
Main idea	Inferential	14	Comprehension	14
Author's purpose	Inferential	12	Analysis	12
Localization of information (details)	Literal	12	Knowledge	12
Main character (details)	Literal	12	Comprehension	12
Prediction	Inferential	18	Analysis	18
Phrase meaning	Literal	12	Comprehension	12
		100		100

Source: (Mirón, 2017, p. 111)

The national reading test is a: (Mirón, 2017, pp. 104-107)

- reading comprehension test
- paper and pencil test
- guided test, students receive general guidelines for answering the test
- matrix type test, are designed to cover the complete curricular contents that are evaluated

It consists of four forms and the tests are applied in a spiral manner, meaning that all forms are assigned to all of the schools in the sample (Mirón, 2017).

It is important to highlight that the construction of tests, as well as the student performance evaluation system was established with the support of various USAID projects. Documentation and data sets are maintained by DIGEDUCA. Data sets from 1998 and onward are available for download8. This system includes assessment instruments, data collection processes, analysis methods, and dissemination of results similar to those existing internationally. Furthermore, it is worth noting that one of the outcomes of these

⁸ https://edu.mineduc.gob.gt/digeduca/?p=baseDatosInicio.asp

efforts was the establishment of reading performance levels, which provided information on what students should know and be able to do to reach a certain performance level. This is the central focus of this document and is described in more detail in the following sections.

This case study describes the experience of Guatemala in developing reading performance standards, which were set by means of the Bookmark method described below. It is expected that the information included here will be useful and valuable for the UNESCO Institute for Statistics (UIS), which is currently collecting information in different countries about their experience in setting such standards to report on indicator 4.1.1a of the Sustainable Development Goals.

1. Methodology

DIGEDUCA, with the technical assistance received from USAID/Education Standards and Research Program, chose to use the Bookmark method to establish performance standards in Reading (Moreno et al., n.d.). The decision to select this method, instead of continuing to use the modified Angoff method (Stock, 2006), was due to the following two reasons. First, because the reference for national tests changed from norm to criterion, implying that performance levels and cut scores had to be established in order to define what each student knows and does according to the level they are at (Moreno et al., n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009; Rodríguez et al., 2009). Second, an exhaustive review of different methodologies for establishing performance standards, suggested that this method was the best one to be used in Guatemala, due to suitability to the context, for the solid evidence of its use in educational evaluation (Stock, 2006) and the Guatemalan measurement system (i.e. type of items used in tests, measurement model, etc.) (Moreno et al., n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009; Rodríguez et al., 2009).

The Bookmark method is widely used in large-scale assessments in the United States to establish cut scores that allow identifying what each student knows and is able to do, according to performance levels (MINEDUC, n.d.; Stock, 2006). Cut scores refer to the minimum score a student must obtain on a test to reach a certain level of performance (MINEDUC, n.d.; Moreno et al., n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009). An adapted version was developed to be used in Guatemala based on the method developed by CTB/McGraw-Hill in 1996. The adaptation was adapted by Michael Beck of Beck Evaluation and Testing Associates, Inc. (BETA) (Programa Estándares e Investigación Educativa/USAID Guatemala, 2009; Stock, 2006).

The Guatemalan large-scale student assessment system has four levels of performance, namely: Unsatisfactory, Should Improve, Satisfactory, and Excellent. These levels were initially selected to meet the policy requirement of the Minister of Education at that time, María del Carmen Aceña. She required reports that provided more granular data than the number of students not meeting the benchmark. The results of the assessment were expected to indicate which students clearly did not meet the benchmark, those who met a minimum level of performance and those that were over the benchmark (L. Müller, personal communication, December 23, 2024). At that time this was considered relevant as part of an overall policy for continuous improvement, to make decisions on policies for promotion and retention, and to design appropriate remedial measures.

Each of the four performance levels has a qualitative and a quantitative component. On the one hand, the qualitative component refers to a description of what students should be able to do and know depending on their level of performance. On the other hand, the quantitative component is the score that must be obtained in a test to assign a particular description of what the student knows or is able to do (Moreno et al., n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009).

Since there are four performance levels, three cut scores were established; one between the Unsatisfactory level and the Should Improve level, another between the Should Improve level and the Satisfactory level, and another between the Satisfactory level and the Excellent level. By doing this, students are separated between each of the levels, hence the name of the Bookmark method (Stock, 2006).

Performance levels and cut scores were set in 2007 in a two-day workshop. The workshop was led by technical staff of DIGEDUCA, who were previously trained by specialists from USAID/Education Standards and Research Program. The data used was the results obtained in 2006 by 1st-, 3rd-, and 6th-grade students in the national reading test (MINEDUC, n.d.; Moreno et al., n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009). The outcomes of this workshop were deemed appropriate to be used in future assessments because an equating method is used during every national assessment exercise to allow comparisons between years, thus establishing a way for the standard to be transported across time.

Initially, it was planned to set performance levels not only for Spanish but also for the four main Mayan languages (K'iche', Kaqchikel, Mam, and Q'eqchi'). However, it was only possible to do so for Spanish, because several of the principals and teachers at schools classified as bilingual within MINEDUC, indicated that both the materials and the teaching instruction were in Spanish and, therefore, they preferred not to use the results of these tests to set standards that would have implications on the instruction of their students (L. Müller, personal communication, December 23, 2024; F. Rubio, personal communication, December 20, 2024). Also, the sample size for Mayan languages did not allow a robust estimation of difficulty parameters for the items in the Mayan tests (F. Rubio, personal communication, January 30, 2025).

The participants in the workshop were grade-specific public school teachers that represented different regions of the country, from urban and rural areas, as well as from Mayan and Spanish speaking regions, with renown and extensive experience in literacy teaching (Moreno et al., n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009). The aforementioned characteristics were crucial in the selection of the teachers, given that, by knowing well what should be taught and, consequently, what the students should learn in the subject and the specific grade, it was easier for them to describe and locate the performance of students (Moreno et al., n.d.).

The steps taken to set the reading performance standards were: (MINEDUC, n.d.; Programa Estándares e Investigación Educativa/USAID Guatemala, 2009; Rodríguez et al., 2009; Stock, 2006).

Step 1: Taking into account their classroom experience, teachers reviewed and discussed the description⁹ of the four performance levels, which were previously developed based on a document review on the subject and expert judgment. These descriptions appear in the following table:

Table 4. Performance levels description for Reading

Performance levels	Description
Unsatisfactory	The student performs at a level close to or below the "Should Improve" level. There is a lack of mastery of skills, abilities, and knowledge that should be developed or exercised in the grade.
Should Improve	The student performs at a level close to and below "Satisfactory." "Unsatisfactory" level descriptions are also included. There is less mastery than expected for the grade level.
Satisfactory	The student demonstrates mastery of the competencies assessed for the grade. Skills performed in the previous level are also included. There is adequate mastery of skills, abilities and knowledge that should be developed or exercised in the grade.
Excellent	The student performs at a level higher than "Satisfactory." Skills performed at the previous level are also included. There is adequate and superior mastery of the skills, abilities and knowledge expected in the grade.

Source: (MINEDUC, n.d., p. 3)

Step 2: After reviewing and discussing the description of the four performance levels, teachers worked together to determine what students should be able to do and know depending on their level of performance (see Annex 2).

Step 3: Teachers took the test, in order to become familiar with the items.

Step 4: Once they finished answering the test, teachers were given a booklet with the items in order of difficulty (from least to most difficult). The difficulty was estimated using Rasch modelling, a procedure that is distinct from, but provides similar results to the 1-paramater Item Response Theory modelling method.

⁹ The performance levels describe the competencies and contents that students should master by the end of third grade. These competencies and contents are captured by the items included in the test, since these are written according to a specification table that includes the reading skills or strategies that students should master by the end of third grade. Thus, the descriptors of performance levels are anchored to CNB and there is an alignment between CNB and the national reading test (Mirón, 2017).

Step 5: Cut scores were carried out. To do this, teachers were requested to:

Remember that cut scores are for all Guatemalan students

Work individually

Take into account what a student must know and be able to do to reach each level of performance and not what they currently know and can do

Remember the descriptions for each of the performance levels

Focus on the student's minimum or limit performance to be considered in the level. That is, teachers had to identify up to which item the student who reaches the minimum performance for each of the levels would be able to answer correctly. This is the item where they would place the bookmark

Begin with the cut score of the Satisfactory level, continuing with the Excellent, Should Improve and Unsatisfactory levels

Repeat the procedure in three rounds. After the first and second round teachers were provided feedback on the impact the cut scores they selected had on the distribution of students across performance levels. During each subsequent round they were allowed to modify the position of their bookmark. The third round was the last one and it established definitively where the cut score would lie. This is more extensively described under each of the following steps.

Step 6: At the end of the first round, the median of the positions in which the teachers placed the bookmarks was calculated. To do this, the data was entered into an Excel file used by BETA, which generates tables and graphs about such bookmarks. The results were presented to teachers.

Step 7: The teachers began with the second round. At the end, the median was calculated, and the results were presented again to them. The teachers were asked to share the reasons why they established those bookmarks. This analysis allowed the teachers to reflect on the cut scores that they selected.

Step 8: Before the third round, the impact of the cut scores on the students' current results was shown to teachers, so that they could observe the percentage of students who fell into each category. The teachers reflected on this and proceeded to identify the cut scores again.

Step 9: The cut scores were validated with a technical committee and after that, the final cut scores were set.

It is important to highlight the participation of María del Carmen Aceña (former Minister of Education) and Floridalma Meza (former Technical Vice Minister of Education) in the process of setting these final cut scores. Moreover, their interest, fostered technical and

policy discussions about benchmarks and quality of education (F. Rubio, personal communication, January 30, 2025).

Step 10: The final cut scores were used to assign the performance level to each of the students evaluated and thus calculate the percentages at the school, department, sex and area levels.

2. Results

Since 2006, DIGEDUCA has assessed reading in a representative sample of 3rd-grade students attending public schools. The last evaluation was carried out in 2019; however, only 44.23% (10,574) of the total (23,906) of students selected participated (Quim, 2022).

Characteristics of students

Most of the students lived in rural areas (80%), were male (54%), attended pre-primary school (75%), have not repeated a grade (57%) and did not work (53%). Regarding their age, 39% were 9 years old (expected age for the grade), 37% were 10 years old, and 23% were 11 years old or older (Graph 1).

45 40 35 30 25 20 15 10 5 Under 9 9 years 10 years 11 years 12 years Over 12 years old years old old old old old Percentage 39 37 13 6 4

Graph 1. Percentage of third-grade students from public schools by age

Source: (Quim, 2022, p. 19)

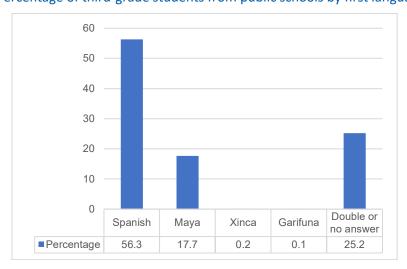
Thirty-six-point four percent (36.4%) of students indicated that they identified as Ladino, 35.9% Mayan, 3.1% Xinca, 2.9% Garifuna, and 5% as Other; the remaining 16.7% had a double identification or did not answer (Graph 2).

40 35 30 25 20 15 10 5 0 Double Foreigne Ladino Maya Xinca Garifuna or no answer 3.1 ■ Percentage 36.4 35.9 2.9 16.7

Graph 2. Percentage of third-grade students from public schools by cultural group

Source: (Quim, 2022, p. 21)

Most students reported Spanish as their first language (56.3%), followed by a Mayan language (17.7%). Only 0.2% and 0.1% reported Xinca and Garifuna, respectively, as their first language. The remaining 25.2% was a double or no answer (Graph 3).



Graph 3. Percentage of third-grade students from public schools by first language

Source: (Quim, 2022, p. 21)

Regarding the highest educational level attained by the parents of students, results show that the majority of fathers (49.6%) and mothers (51.1%) studied up to primary school. The following graph shows the educational levels attained.

50 40 30 20 10 0 I don't Lower Upper Primary secondary University know/No secondary education school education education Father 13.3 49.6 14.8 15.3 Mother 51.1 6.2 18.5 13 11.2

Graph 4. Percentage of educational level attained by parents from students evaluated

Source: (Quim, 2022, p. 21)

Reading results of students

According to the results, a slight majority of 3rd-grade students met or exceeded the standard (Satisfactory 33%, Excellent 23%), whereas almost four in 10 got close to meeting the standard (Should improve 38%), and less than one in 10 obtained very low scores (Unsatisfactory 6%) (Table 5).

Table 5. Performance levels of third-grade students from public schools according to their results

Performance level	Population 2019 ¹⁰	Percentage	
Unsatisfactory	14,183	6	
Should Improve	88,137	38	
Satisfactory	77,289	33	
Excellent	53,104	23	
Total	232,712	100	

Source: (Quim, 2022, p. 27)

¹⁰ The data in the table includes expansion factors, allowing an analysis of the results at the population level.

According to the above results and taking into account the current performance level descriptions (Annex 3), the majority of 3rd-grade students evaluated in 2019 that pertain to the Satisfactory level can:

- Carry out the six competencies corresponding to the Unsatisfactory and Should improve levels, namely:
 - o Locate explicit information in a text
 - o Identify the main character in a story
 - o Identify the antonym of adjectives
 - o Identify details of secondary characters in a story
 - o Find the explicit main idea, based on the information provided in a short text
 - o Predict what will happen in a story, based on reading a sequential narrative text and a narrative text
- Interpret colloquial expressions and proverbs
- Infer the meaning of some words based on the information provided by the text
- Distinguish the main characters from the secondary ones based on the information provided by a sequential narrative
- Identify antonyms of words that function as nouns or adjectives within the sentence

Whereas, students who are in the Excellent level can:

- Carry out the ten previous competencies
- Identify the purpose of the author who wrote the text, according to the use the author gives to vocabulary within a short paragraph
- Identify the main idea (implicit) from the complementary ideas based on the information provided by the text

The following section includes the uses given to the reading performance standards.

3. Uses

Reading standards were used both externally and internally within MINEDUC.

At the external level, these served to inform the general public, including parents. One of the most important contributions of making them public was that the discourse on education changed from increasing coverage to educational quality, which, to this day, remains the priority in the country.

Internally, the performance standards raised a discussion about the curriculum, leading to their inclusion and enrichment of the National Base Curriculum (CNB; *Currículo Nacional Base*). Moreover, it led to an effort to align texts and educational resources to the CNB. In addition, it generated an internal reflection on the quality of teacher training, resulting in 2009, in transferring primary school teacher training programs from teacher training at the higher secondary level to training at college and university levels. Also, these have been used to create and disseminate materials for teachers¹¹ and foster involvement of parents¹² in the education of their children. Thus, evaluation results have been used with the intention of improving teaching and being able to measure improvement in the next round of evaluation.

Although teachers and students are part of the audience to whom the test results are communicated, it is important to remember that these were developed with the purpose of evaluating the country's educational system and thus, provide information to make decisions at the curricular and public policy level. A few months before the end of the school year, the test is applied annually to a representative sample of students. So, when the results are available, approximately six to eight months later, teachers have a new group of students.

Taking this situation into consideration and that the efforts of USAID were directed at measuring reading skills in early grades (RTI International, 2010), the USAID/Educational Reform in the Classroom Project, coordinated with DIGEDUCA the use of the Early Grade Reading Assessment (EGRA) in different schools in the country. This test evaluates the five components that were identified by the National Reading Panel in 1999 to be related with the acquisition of reading, namely: alphabetic principle, phonological awareness, fluency, reading comprehension and vocabulary, which correspond also with the educational standards included in CNB (USAID/Reforma Educativa en el Aula, 2010).

EGRA was adapted to Spanish and K'iche', called ELGI and EESNAJ, respectively. However, as with national reading tests, EGRA provides information to decision makers and not

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¹¹ https://tinyurl.com/2aknmt78

¹² https://tinyurl.com/3fpmpt8z

directly to teachers (RTI International, 2010), and thus, in 2012, USAID/Educational Reform in the Classroom Project proposed the formative assessment tool called Curriculum-Based Assessment (EBC; *Evaluación Basada en Currículo*). This is a tool designed specifically for teachers that gives them information about the reading skills¹³ of their students. Based on the results, teachers select and apply the appropriate reading teaching strategies that will support their students.

EBC¹⁴ is made up of a list of letters, a list of familiar words, a list of words for decoding, and reading passages (*Evaluación Basada en Currículo*, (2018, July 05)). It is available in Spanish, K'iche', Mam, and Q'anjob'al. The reading passages in Spanish were created by early grade teachers and technical staff from MINEDUC. These were calibrated using the Lexile framework, which seeks to match the student's reading ability with the difficulty of the text (Lexile, n.d). Reading passages in Mayan languages were developed by teachers and Mayan linguists for each Mayan language and calibrated by expert judgement, with the participation of expert Mayan linguists and expert Mayan teachers. It is important to note that the reading passages in Mayan Languages are certified by the Academy of Mayan Languages of Guatemala (ALMG; *Academia de Lengua Mayas de Guatemala*).

Three performance levels and cut scores¹⁵ were established, namely: Satisfactory, Should Improve, and Excellent; if the student is at the Satisfactory level, no other reading passage is administered, since that is the student's reading skill level; if the student is at the Should Improve level, the teacher will give the student a less difficult reading passage and if the student is at the Excellent level, he or she will read a more difficult reading passage (*Evaluación Basada en Currículo*, (2018, July 05)). EBC provides teachers with information quickly and effectively about the reading skills of their students and from this, they can implement strategies that allow their students to improve.

During USAID/Lifelong Learning Program, <u>curriculum-based assessment materials for writing</u>¹⁶ were designed. These are available only for Spanish (F. Rubio, personal communication, December 20, 2024).

EBC has had an important role in the recovery of reading learning after the COVID-19 pandemic, given that it is the main tool used in the learning loss recovery strategy of

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¹³ Annex 4 includes information about reading fluency performance levels and cut scores. Reading fluency, one of the aspects assessed by EBC, is measured by the number of letters or words read correctly per minute (WCPM)

¹⁴ https://sites.google.com/juarezassociates.com/jacatalogo2022/ebc-fluidez-lectora

¹⁵ There is a set of benchmarks for reading comprehension (national tests) and for reading fluency (EBC). However, at the moment, there is not yet a common measurement scale across them. An equating study is necessary between both of them (F. Rubio, personal communication, January 30, 2025).

¹⁶ https://sites.google.com/juarezassociates.com/jacatalogo2022/ebc-escritura

MINEDUC. The objective of this strategy is to ensure that students' reading and writing skills correspond to the expected range of the grade they are in (F. Cabrera, Technical Vice Minister of Education, personal communication, December 23, 2024).

The implementation of the learning loss recovery strategy began in the second half of 2024, where approximately 40,000 teachers from 2nd to 6th grade were trained through an online-tutorial in EBC. The implementation seeks to promote the development of reading and writing skills. For reading, a cut score of 50 words read correctly per minute was set, enabling teachers to identify students who require more attention. The cut score was set through consultations and discussions within technical staff of MINEDUC; however, later this year, it is expected to set an evidence-based¹⁷ cut score, once the results from the evaluation of the strategy are obtained (F. Cabrera, personal communication, December 23, 2024).

The strategy was planned to be applied by the teacher 40 minutes a day, four days a week for 16 weeks. So far, the strategy is being carried out in Spanish, because most students learn to read and write in this language. In addition, a loss in the use of Mayan languages is being observed, which is currently still difficult to quantify (F. Cabrera, personal communication, December 23, 2024).

During the training sessions, it has been observed that teachers find EBC useful and user-friendly. This may be related not only to the tool itself, but also to the support and guidance that teachers have received from the teams that are part of the National Coaching and Accompaniment System¹⁸ (SINAE; *Sistema Nacional de Acompañamiento Escolar*), as well as educational supervisors of MINEDUC. The most important challenge for the implementation of the strategy will be perhaps related to the teachers' union, which has shown active resistance¹⁹ to its use (F. Cabrera, personal communication, December 23, 2024).

¹⁷ This is really important considering the results of the regression discontinuity study carried out by Rosales (2021, June 8-11). More information about this study can be found in the next section "Current status of reading performance standards".

¹⁸ Promotes the continuous improvement of pedagogical and school management processes, through a comprehensive and multidisciplinary activity at three levels: a) classroom, by continuous improvement of pedagogical practices; b) school, by the participation of the principal and staff and; c) educational community, by participating in the activities of the school (USAID Reforma Educativa en el Aula. (2012). *Manual del Asesor* Pedagógico. *Sistema Nacional de Acompañamiento Escolar*, p. 8, https://pdf.usaid.gov/pdf docs/pa00j45b.pdf). It is important to note that USAID/Educational Reform in the Classroom Project, provided support to MINEDUC simultaneously with the development of SINAE and literacy in the early grades.

¹⁹ Their resistance is not only related to this strategy, but rather towards any initiative of the Ministry of Education that involves the use of assessments and standards. This is explained by three reasons, namely: a) they do not want students to be evaluated because if they fail is the teachers' responsibility (union reason); b) tests and standards are neoliberal practices and they oppose these practices (ideological reason); and c)

Current status of reading performance standards

The main advantage of standards is that they serve as reference points for poorly structured educational systems where many teachers do not have enough training to make informed decisions for planning and structuring the teaching-learning process, as is the case in Guatemala (F. Cabrera, personal communication, December 23, 2024).

In order to remain a relevant point of reference and to be used in the best possible way, it is important that these are reviewed and updated. The current performance standards were created approximately 18 years ago, so now that MINEDUC is carrying out a review of the curriculum, it has been considered appropriate to review these standards as well (F. Cabrera, personal communication, December 23, 2024).

The regression discontinuity study carried out by Rosales (2021, June 8-11) supports the previous suggestion about the necessity to review the current performance standards and cut scores. The results of this study showed that 80 WCPM corresponds to the standard of reading fluency that a 2nd-grade student must achieve in order to impact performance in reading comprehension in second and third grade.

Moreover, there is a set of benchmarks for reading comprehension (national tests) and for reading fluency (EBC). However, at this moment, there is not yet a common measurement scale across them. Therefore, an equating study is important, since a study²⁰ carried out by Cotto and Del Valle (2017) showed a significant correlation between fluency and reading comprehension and together with oral comprehension, fluency was a strong predictor for reading comprehension.

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MINEDUC does not provide the same learning opportunities to all students and thus it is not fair to use tests and benchmarks (curricular reason) (F. Rubio, personal communication, January 30, 2025).

 $^{^{20}}$ The study used ELGI, the Spanish version of EGRA and the sample consisted of 7,017 first-grade students from public schools of Guatemala.

4. Lessons learned and advise to UIS and the international community

Mutual contribution in technical efforts. There have been some efforts from international organizations to adjust educational assessments based on feedback from developing countries. For example, adaptations were made to PISA's interpretation system, given that these were too high for developing countries. Another example is EGRA, which is an effort to assess the reading skills of children from countries where these have not been fully fostered and developed.

Recommendation: It will be worthy to make this type of efforts a regular practice, so that develop and developing countries can influence mutually. For example, it is hoped that this case study which describes the experience of Guatemala in developing reading performance standards may contribute to the international dialogue around benchmarks.

Teacher participation. The role of teachers is fundamental for the reforms or transformations that occur within educational systems. For example, having their participation during the establishment of standards was crucial. Therefore, it is important that these changes at the national level are not isolated processes, but are linked to the local level, with special emphasis on teachers. This will allow them to observe the interrelation between such processes.

Recommendation: Encourage the participation of teachers in the processes that take place at the national level and that play a crucial role and significantly influence teachers, given the leading role they have in the classroom. In regard to setting and using standards, they are best placed to identify the performance levels that are locally relevant and use them in a direct manner to improve learning.

Seize the opportunity of existing longitudinal data. Most countries around the world have already established student performance assessment systems that have been collecting longitudinal data. One advantage of this type of data is that it allows to obtain information about changes that occur in the same sample of students over time and therefore assess long-term educational interventions and outcomes.

Recommendation: Move from performance to learning by using existing longitudinal data.

Performance standards for reading in Mayan languages. This is currently a pending process, and it is important to continue it, in order to contribute to the reading acquisition process of students whose first language is one of the main Mayan languages. In addition, it is a process stipulated in the CNB.

Recommendation: Carry out research on reading acquisition for students who learn to read in Spanish and a Mayan language; identify a methodology that may be more relevant to the development of performance standards for the four main Mayan languages.

Review tests in Mayan languages. Experiences in Guatemala and in other countries show that the language spoken at home or colloquially is different from the language used in the school or academic context. This led to students having difficulty understanding the written language, even the one used by the teacher.

Recommendation: Taking the above into account, it may be interesting to conduct research to find out the correspondence between the Mayan language used in the tests and the Mayan language spoken by the students. The information obtained will allow a better understanding of the situation.

Make open-source tests aligned to the benchmarks available for teachers to use independently in their own classrooms. An important challenge that still exists is that standardized assessment is not part of teacher's routine in the classroom and the application of formative evaluation is complex given that teachers have not yet mastered certain content.

Recommendation: To ensure alignment with standards in a simple and prompt way, items or tests that have been released can be used to create publicly available tools.

Support from international cooperation. The support of this community has been crucial for the establishment of student performance evaluation systems in developing countries, including Guatemala, as well as for strengthening the capabilities of technical staff.

Recommendation: It is essential to continue supporting countries that already have established student performance evaluation systems, but efforts should focus now, on providing evidence-based information that is classroom work friendly or teaching friendly. Standards can provide the necessary evidence of student performance in a manner that teachers can easily understand and apply to their work. Efforts should also seek to create teacher support systems so that they can have timely information for planning teaching strategies. That is, efforts should be directed at meeting demands at the classroom level, since only timely information received by teachers will provide feedback and lead to better learning.

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Annex 1. Reading results of Guatemalan students in SERCE, TERCE, and ERCE

In 2006, Guatemala participated for the first time in an international evaluation, being the Second Regional Comparative and Explanatory Study (SERCE; Segundo Estudio Regional Comparativo y Explicativo). From then on, Guatemala has participated in the next two rounds of this international evaluation, taking place in 2013 (TERCE; Tercer Estudio Regional Comparativo y Explicativo) and 2019 (ERCE; Estudio Regional Comparativo y Explicativo), and it is expected to participate in the round of the current year (ERCE 2025). DIGEDUCA has been and is responsible for coordinating nationally this evaluation.

This international evaluation is an initiative of the Latin America Laboratory for the Evaluation of the Quality of Education (LLECE; *Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación*), led by OREALC/UNESCO Santiago. It aims to obtain information about the performance of 3rd- and 6th-grade students from member countries of Latin America and the Caribbean in Mathematics, Reading, Writing (both grades) and Science (only 6th grade) (UNESCO, 2021)²¹.

The following table shows the scores and the performance level obtained by 3rd-grade students from Guatemala in SERCE, TERCE, and ERCE. It also includes the countries' average (region) score and performance level to compare how Guatemala performed in comparison with the rest of Latin America and the Caribbean.

Table 6. Reading scores and performance level of 3rd-grade students in SERCE, TERCE, and ERCE²²

	SERCE			TERCE			ERCE		
	N	Score	Performan ce level	N	Score	Performan ce level	N	Scor e	Performan ce level
Region	100,75 2	491.2 1	Level 2 (35.51%)	+67,00 0	509.7 3	Level 2 (42.37%)	+160,0 00	697	Level 1 (44.3%)
Guatema la	7,095	446.9 5	Level 1 (43.18%)	6,300	494.8 6	Level 2 (44.97%)	5,393	656	Level 1 (60.7%)

Source: (DIGEDUCA, 2010; UNESCO, 2014; 2021)²³

https://edu.mineduc.gob.gt/digeduca/documents/serce/serce_resumen-SERCE.pdf

²¹ UNESCO. (2021). Estudio Regional Comparativo y Explicativo (ERCE 2019). Reporte nacional de resultados: Guatemala. https://edu.mineduc.gob.gt/digeduca/documents/erce/ERCE_Guatemala.pdf

 $^{^{22}}$ Only SERCE reports the sample of 3^{rd} -grade students that participated in the study. TERCE and ERCE reports 3^{rd} - and 6^{th} -grade students together. However, the score and performance level reported in the table refers only to 3^{rd} -grade students. This is because indicator SDG 4.1.1a, collects data for 2^{nd} and 3^{rd} grade.

²³ DIGEDUCA. (2010). *Resumen de los resultados y aportes del Segundo Estudio Regional Comparativo y Explicativo*. Ministerio de Educación.

The results show that Guatemala had a significant improvement in TERCE in relation to the results obtained in SERCE. The country was one of the nine out of 14 countries that had a significant improvement. However, Guatemala still performed below the regional average (UNESCO, 2014). According to the performance level descriptions (Level 2), the majority of Guatemalan students can (UNECO, 2014, p. 28):

- Locate information in a short text that must not be distinguished from other conceptually similar information
- Discriminate words with a single meaning
- Recognize simple sentence reformulations
- Recognize redundancies between graphic and verbal codes

Regarding the results of third-grade students of Guatemala in ERCE, it is observed that the score was statistically lower than the regional average and that they lowered their scored based on a statistical comparison with TERCE (UNESCO, 2021, p.14). According to the performance level descriptions (Level 1), the majority of Guatemalan students can (UNECO, 2021, p. 21):

- Find specific information presented literally in the text and located at the beginning or in a prominent place therein (e.g., in headings or highlighted words)
- Draw inferences from highlighted information
- Recognize text types with a prototypical structure (e.g., stories that have a structure containing a beginning, conflict and denouement)
- Recognize a characteristic of the text related to text typologies from apparent clues

UNESCO. (2021). Estudio Regional Comparativo y Explicativo (ERCE 2019). Reporte nacional de resultados: Guatemala. https://edu.mineduc.gob.gt/digeduca/documents/erce/ERCE_Guatemala.pdf

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Annex 2. Third grade performance level descriptions for Reading (2007)^{24,25}

Table 7. Third grade performance level descriptions for Reading (2007)

Performance level	Description
Unsatisfactory	 Students who reach this level can: Read two and three compound sentences coordinated by a copulative conjunction (and) Identify the information that is clearly expressed in the text, in order to answer statements. Discriminate information, in order to answer to a specific statement. Use sequential narrative to find the best prediction of what will happen in the story. Use sequential narrative and their previous experience to find the best prediction of what will happen in the story.
Should Improve	Students who reach this level can: Read paragraphs made up of compound sentences coordinated by a copulative conjunction (and) Find the main idea by using explicit information within the paragraph Link sequential narrative to what will happen in the story Deduce the mood of a character by taking into account their previous experience and information appearing in the text Identify the main character using relevant information within the text
Satisfactory	 Read texts that are structured in paragraphs of three sentences and with vocabulary related to the type of text (informative, descriptive) Identify the information that is clearly expressed within the text, in order to answer questions Distinguish the main and secondary characters that appear in a sequential narrative Find the information in a text made up of several paragraphs, in order to answer questions Find the best inference, according to the text read Analyze the sequential narrative that appears within a text, to find which event occurred first Interpret proverbs based on their cultural context and previous knowledge

 $^{^{24}}$ While it is true that during the two-day workshop carried out in 2007, 1^{st} , 3^{rd} , and 6^{th} grade performance levels descriptions and cut scores for Reading were set, here is only reported the information regarding 3^{rd} grade, since indicator SDG 4.1.1a, collects data for 2^{nd} and 3^{rd} grade.

²⁵ MINEDUC (n.d). *Niveles de logro para los grados de primero, tercero y sexto primaria definidos a partir de la aplicación 2006.* MINEDUC.

Performance level	Description
Excellent	Students who reach this level can:
	 Read texts that are structured in paragraphs of three sentences and with vocabulary related to the type of text (informative, narrative) Interpret proverbs, with two propositions (compound sentence) joined by a conjunction, based on their cultural context and previous knowledge Distinguish the author's purpose (to inform, criticize, persuade) by the vocabulary used in a short paragraph of the text Find the main idea of a paragraph Discriminate the main idea from the complementary ideas Infer the meaning of an unfamiliar word after reading an informative text that is related to his or her cultural context Identify the main idea by discriminating relevant information within complementary ideas that appear in the same paragraph

Source: (MINEDUC. n.d., p. 8)

Annex 3. Third grade performance level descriptions for Reading $(2017)^{26}$

Table 8. Third grade performance level descriptions for Reading (2017)

Performance (3 rd grade)	level	Description
Unsatisfactory		In this level students can:
		 Locate explicit information in a text. Identify the main character in a story. Identify the antonym of adjectives.
Should Improve		In this level students can:
		 Carry out the three previous competencies. Identify details of secondary characters in a story. Find the explicit main idea, based on the information provided in a short text. Predict what will happen in a story, based on reading a sequential narrative text and a narrative text.
Satisfactory		In this level students can:
		 Carry out the six previous competencies Interpret colloquial expressions and proverbs. Infer the meaning of some words based on the information provided by the text. Distinguish the main characters from the secondary ones based on the information provided by a sequential narrative. Identify antonyms of words that function as nouns or adjectives within the sentence.
Excellent		In this level students can:
		 Carry out the ten previous competencies Identify the purpose of the author who wrote the text, according to the use the author gives to vocabulary within a short paragraph. Identify the main idea (implicit) from the complementary ideas based on the information provided by the text.

Source: (Mirón, R., 2017, pp. 117-118)

 $\underline{https://edu.mineduc.gob.gt/digeduca/documents/cuadernillosTecnicos/Compendio\ pruebas.pdf}$

²⁶ Mirón, R. (2017). ¿Qué hay detrás de las pruebas para estudiantes de tercero y sexto primaria? Construcción de las pruebas. Compendio. Marco de referencia de las pruebas nacionales. Compendio. Dirección General de Evaluación e Investigación Educativa, Departamento de Desarrollo de Pruebas Monolingües. Ministerio de Educación.

Annex 4. Reading fluency performance levels and cut scores²⁷

EBC is a tool designed specifically for teachers that gives them information about the reading skills of their students, being fluency one of them. It is measured by the number of words read correctly per minute. The reading passages are available in Spanish, K'iche', Mam, and Q'anjob'al. The reading passages in Spanish are organized according to five levels and Lexile²⁸ level, whereas the reading passages in Mayan languages, besides being organized in three levels, are organized by text length. The following tables show the reading fluency cut scores for each of the performance levels and languages.

Table 9. Reading fluency performance levels and cut scores for EBC in Spanish

Reading passages in Spanish						
Level	Text difficulty (Lexile level)	Reading fluency (WCPM) cut scores for performance levels				
		Unsatisfactory	Satisfactory	Excellent		
1	100 – 200	0 – 25	26 – 40	41 or more		
2 and 3	220 – 400	0 – 50	51 – 65	66 or more		
4 and 5	420 – 600	0 – 65	66 – 85	86 or more		

Source: (Juárez & Associates. n.d.)

Table 10. Reading fluency performance levels and cut scores for EBC in K'iche', Mam, and Q'anjob'al

Reading passages in K'iche', Mam, and Q'anjob'al							
Level	Text difficulty (Length)	Reading fluency (WCPM) cut scores for performance levels					
		Unsatisfactory	Satisfactory	Excellent			
1	53 – 98	0 – 17	18 – 28	29 or more			
2	101 – 161	0 – 35	36 – 60	61 or more			
3	174 – 200	0 – 60	61 – 80	81 or more			

Source: (Juárez & Associates. n.d.)

²⁷ Juárez & Associates. (n.d.). EBC Fluidez Lectora. Lecturas y guía para el docente. https://sites.google.com/juarezassociates.com/jacatalogo2022/ebc-fluidez-lectora#h.ohypz2cetc8r

²⁸ Matches the student's reading ability with the difficulty of the text (Lexile. (n.d). *About Lexile Measures for Reading. Lexile Framework for Reading.* https://lexile.com/parents-students/understanding-your-lexile-measures-reading/)

CASE STUDIES OF COUNTRY-BASED BENCHMARKING FOR PRECURSOR SKILLS IN READING, FOR SDG 4.1.1A A CASE STUDY OF GUATEMALA

Email:

uis.information@unesco.org uis.director@unesco.org

uis.unesco.org

@UNESCOstat