



# **Early Grade Reading Assessment for children with visual impairment: towards more inclusive learning in Mali**

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## About this report

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## Executive summary

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Since Mali became independent in 1960, the Malian government has worked to develop an education system that meets the needs of the country's children. Two different curricula are offered, with the majority of schools using French as the language of instruction, and other schools following a bilingual curriculum, in which students are taught first in one of Mali's eleven approved native languages and then in French. A series of reforms have taken place in the past 60 years to improve access to education and increase literacy, with the quality of basic education included as a constant concern in national plans.

Learning assessments are essential to measure the efficiency of a teaching approach and ensure that learning is happening for every student. In Mali, the latest reading assessment using the Early Grade Reading Assessment tool was done in 2015 by RTI. The results put the spotlight on existing limitations in the teaching methodology and on the critical need to improve children's opportunity to read by increasing print materials in classrooms and providing teachers with strategies for making use of them. These results feed into the knowledge base that is required to improve reading fluency among Malian children. In the absence of an assessment tool that is designed for their specific needs, children with visual impairment are excluded from this knowledge base.

The introduction of EGRA in schools attended by visually impaired and blind students is a cornerstone of Sightsavers' work in Mali. In 2017, Sightsavers received funding from the United States Agency for International Development (USAID) to develop and trial a version of the EGRA for use with young people with visual impairment in Mali. As part of this grant, in 2018, Sightsavers commissioned the Vision Impairment Centre for Teaching and Research (VICTAR) at the University of Birmingham to review available evidence on teaching pupils with visual impairment and adapting EGRA to their needs and to make recommendations on an EGRA version for Mali.

This adaptation was proposed in 2018, tested by teachers and Ministry of Education officials, and then piloted in six schools in Bamako. A detailed analysis of a sample of completed assessments showed the feasibility of the application of the adapted test and produced some specific and practical recommendations to follow when applying the test, such as the need for extra time and specific environmental conditions for it to be used optimally. The pilot also yielded some fresh information about reading speeds in this group of children. There were significant variations in performance, which potentially reflect the varying standard education provision received by the children, the type of curriculum being delivered, the level and quality of home-based educational support, and the children's levels of language development, among other things. Children with low vision generally (but not always) read faster and more accurately than children who are blind, particularly in the lower grades. As a result, it is recommended that:

- Children with visual impairments should be given extra time to complete EGRA and other reading tests.
- When taking tests and examinations, children should be provided with specific accommodations in accordance with their personal needs (these accommodations are available in specific Sightsavers guidelines)
- DNP should make it clear to education stakeholders – especially inspectors, teachers and parents – that many children with a visual impairment can become fast and fluent readers, if provided with the necessary support, stimulus and encouragement.
- It is important that tests and examinations are accessible for all students with disabilities, not just children with visual impairments. Sightsavers is able to partner DNP to achieve this.

The generally positive outcome of the EGRA adaptation for Mali and the need to pay further attention to integrating children with disabilities into testing mechanisms now demands strong advocacy so that the MoE, donors, and NGOs support rolling out the adapted EGRA, using trained assessors from the Ministry of Health, with collaboration from OPDs who can provide crucial logical and facilitation support. Due attention should be given to the reading curriculum and to the availability of relevant material for both teachers and parents so that they meet the specific needs of children with visual impairments. Now that the test has been adapted in French, and is being used by other institutions in different cities in Mali, it is important to work towards an adaptation in native languages, starting with the Bamanankan language, which through to collaboration between the Malian language academy, the Faculty for Literature, Language and Language Science of University of Bamako, the Malian Union for the Blind, the Ministry of Education and Sightsavers, now has its own Braille version. A next step will also be to address testing for children with visual impairments in other subjects (mathematics in particular), as well as testing for children with other impairments, such as hearing.

## Background

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Sightsavers' work on inclusive education in Mali is centered around three main objectives: 1) increasing the number of visually impaired children in primary schools in three regions; 2) introducing the Early Grade Reading Assessment (EGRA) System for visually impaired and blind students in schools; and 3) increasing the engagement and capacity of the Ministry of Education and other education stakeholders for inclusive education of visually impaired children.

Reading assessments are an important part of any teaching strategy, providing invaluable data on reading acquisition to inform the development of strategies to improve learning outcomes. Children with visual impairments are often excluded from such exercises and yet data on how they perform in different elements of literacy provides useful insight into what changes are required to the reading curriculum and pedagogical approach to guarantee their equal access to literacy, what tools should be brought into the class environment for better reading outcomes, and what specific weaknesses and strengths these children present compared to their peers without visual impairment. In low and middle-income settings, children with visual impairment have recurrent challenges in reading speed, accuracy, and understanding, and often lack access to books and reading opportunities. Ensuring that children with visual impairment who attend school are tested in their reading skills is part of a rights-based approach in education that has been endorsed in Mali through national law, the African Union Charter, and the UNCRPD.

In 2017, Sightsavers received funding from the United States Agency for International Development (USAID) to develop and trial a version of the EGRA for use with young people with visual impairment in Mali, as part of the “We can learn” project. This wider project aims at including children with visual impairment in the national EGRA, identifying common challenges faced by these children, and improving their reading skills alongside their sighted peers by identifying relevant inclusive education strategies.

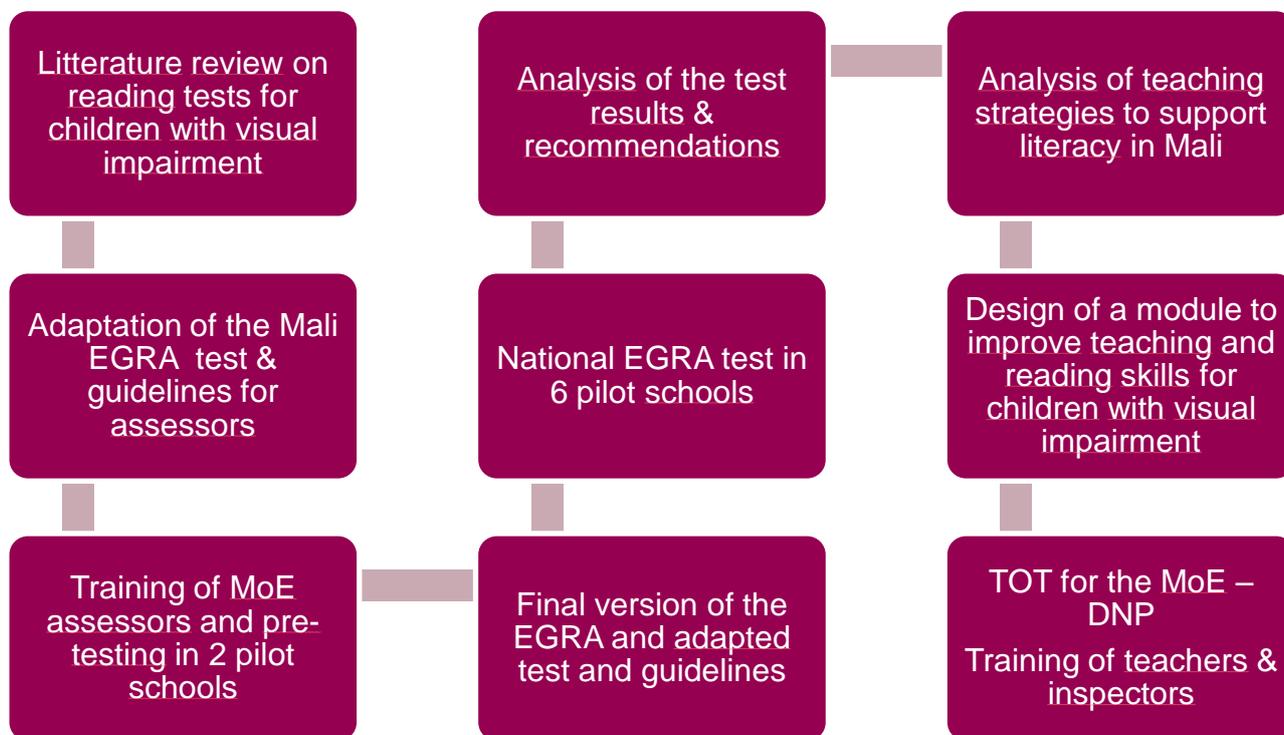
As part of this grant, in 2018, Sightsavers commissioned the Vision Impairment Centre for Teaching and Research (VICTAR) at the University of Birmingham to review high quality international evidence on teaching and learning of literacy to children with visual impairments, with focus on reading tests, and to make recommendations for the modification of the EGRA for use in Mali. This adaptation was then used in a national EGRA test for children with visual impairment in 6 (5 mainstream and 1 special) schools, as part of an analysis of teaching strategies to support literacy in the country. This report presents the process of EGRA adaptation for Mali, an analysis of the reading test results

### What is EGRA?

EGRA is a validated reading assessment tool designed to measure the most basic foundation skills for literacy acquisition in early grades. The test components include timed, 1-minute assessments of letter naming, nonsense and familiar words, and paragraph reading. Assessors follow a specific, standard protocol during the evaluation.

obtained, and next steps to improve the way children with visual impairments are taught to read and write in the country as part of a national teaching strategy.

## Steps in the adaptation and testing process



## Adapting EGRA for children with visual impairment

### Current teaching practices

Since Mali became independent in 1960, the Malian government has worked to develop an education system that meets the needs of the country's children. A series of reforms have taken place in the past 60 years to improve access to education and increase literacy. The quality of basic education as a foundation for lifelong learning has been a constant concern in national plans.

Among the most recent reforms, in 2009 the Ministry of Education introduced through the teachers' training institute (Institut de Formation des Maitres, IFM) and the pedagogic animation centre (Centre d'Animation Pédagogique, CAP) five principles to be used by teachers to support the development of children's reading and writing in schools, based on 1) the use of mechanisms of language such as phonemic awareness and phonics, 2) increasing children's vocabulary, 3) encouraging greater reading fluidity, 4) increasing access to comprehension texts, and 5) ensuring appropriate behaviour and pedagogical techniques are also taught in the classroom. In 2010, UNESCO and the Ministry of Education launched a project to reinforce the institutions, structures, and actors in charge

of teachers training called “Capacity building of teacher training structures” (CapEFA). This project aims at creating quality programmes for teacher training to improve different skill areas in reading and writing through games, short stories, guided reading, free writing, with teaching on the mechanics of the language (phonics and phoneme awareness), to achieve the goal of Education for All (EFA).

Yet in spite of these and other efforts to change the way reading and writing are taught, high illiteracy rates still prevail in many schools. UNESCO estimates that in 2018, the literacy rate in Mali in people over 15 years was only 35.5% (25.7% in women and 46.2% in men)<sup>1</sup>. The latest data from Mali shows that around 42% of learners in Grade 2 classes have a good use of their own language and can communicate well and around 48% of children in Grade 6 are able to master French.<sup>2</sup>

Mali uses two different curricula: the majority of schools follow a “classic” curriculum, in which French is the language of instruction, and other schools use a “bilingual” curriculum, in which students are taught first in one of Mali’s eleven approved native languages and then in French. In 2017, the Ministry of Education issued a policy cementing the official teaching approach to reading as the ‘syllabic’ method, which relies on phonemic awareness and phonics. The current reading curriculum has been revised on this basis, and teachers’ training on this approach was planned for 2020.

Obviously, any teaching method relies heavily on the teacher’s own knowledge and ability to explain reading to children in a careful and structured way. During a visit to the Institut de Formation des Maîtres (Teacher Training College) in Bamako in November 2019, a Sightsavers team gathered general information on teachers’ training. Trainee teachers receive 4 hours instruction per week on how to teach literacy to children over a 6 month period. They also have to complete a 3-month placement in a classroom as an assistant teacher in order to validate their degree. Their access to training manuals is reportedly limited.

The latest reading assessment using EGRA in Mali was done in 2015 by RTI using assessment protocols adapted for the Malian context in Bamanankan and French. It revealed that overall, across the three regions, only 2% of students were meeting the Ministry of Education’s threshold of 31 familiar words per minute in French and Bamanankan in Grade 2. This highlights failures in the teaching methodology, including the need for a better structure of lessons. It also points to the critical need to improve children’s opportunity to read by increasing print materials in classrooms and providing teachers with strategies for making use of them.

Efforts to improve reading fluency among Malian children should not exclude children with visual impairment. In October 2017, the Sightsavers education team gathered data on Braille and print literacy, based on a questionnaire developed by VICTAR. It provided the following information on the current practices of teaching children with visual impairment:

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<sup>1</sup> <http://uis.unesco.org/en/country/ml>

<sup>2</sup> Data from 2015 EGRA National Assessment.

- **Braille literacy in the French language:** The general approach to braille teaching in Mali is that students are taught through *French braille*. There is no evidence that *Bamanankan braille* is taught.
- **Uncontracted braille:** In the primary years, taught braille is *uncontracted* (and the capital sign is not used).
- **Print literacy for pupils with low vision in the French language:** Literacy appears to be taught through French for pupils with low vision. Nevertheless, there is high use of the language Bamanankan more generally in schools (RTI, 2015).
- **Limited use of large print:** It appears that the general teaching approach is to offer children standard print materials in line with other students in the classroom (e.g. textbooks without modifications); there appears to be little available in large print.
- **Reading stands and low vision devices for print readers with low vision:** Reading stands and low vision devices (most commonly optical magnifiers) are used in some schools, in particular those that are supported by Sightsavers, but are not the norm.

This information was essential input into the exercise to adapt EGRA to the Malian context.

## EGRA adaptation

EGRA is a standardised test that yields reliable and valid measurements when administered under certain conditions that guarantee its psychometric properties. Modification of the assessment must therefore be done very carefully, and all changes and deviations from the EGRA handbook and standard materials must be justified.

The main challenge is therefore to make modifications to the EGRA that ensure it is accessible to children with visual impairment, while preserving the integrity of the assessment, and making the modifications relevant to the Mali educational context – i.e. sensitive to the way education is conducted with visually impaired students, and the resources that are available.

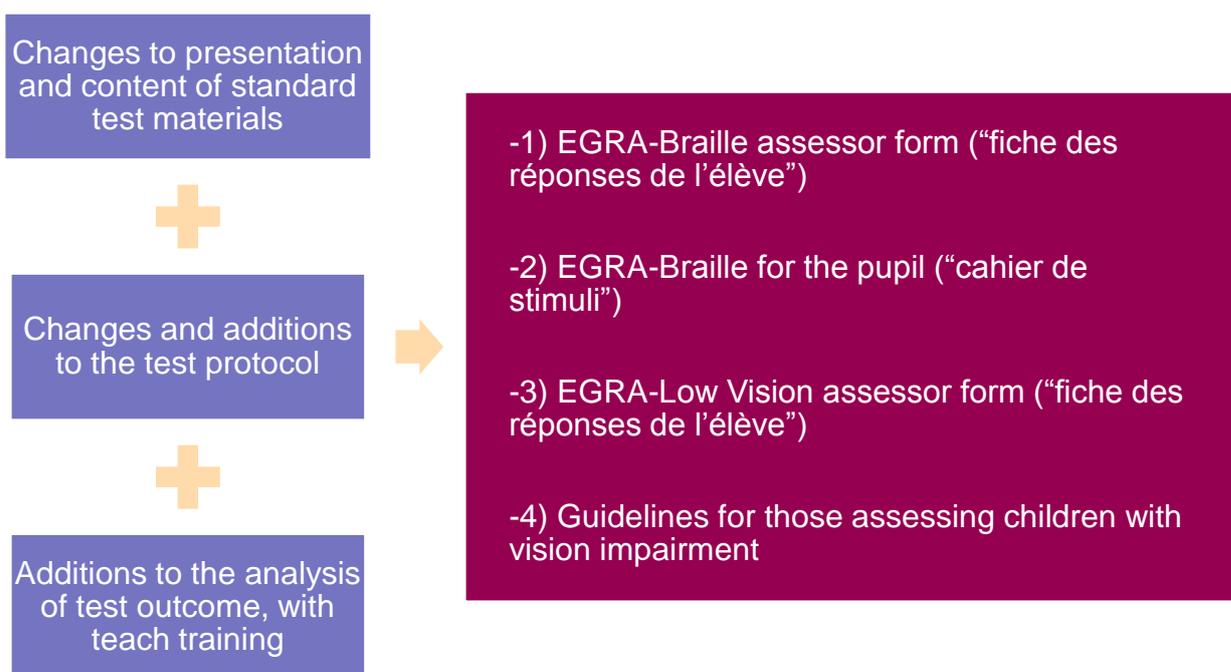
Sightsavers commissioned VICTAR at the University of Birmingham to review high quality evidence on teaching and measuring of literacy to children with visual impairments, with focus on the administration of reading tests, and to develop a proposal for an adapted version of EGRA for children with visual impairment. This work included a review of the general literature in relation to literacy assessment and visual impairment and a review of previous use of EGRA to assess visually impaired children's reading skills. Some of the salient points of these reviews are highlighted in the next two paragraphs.

The two main routes to literacy for children with visual impairment are **Braille and print**. The decision of which to use is affected by a number of considerations that include characteristics of the cultural and economic context of the teaching. The **availability of literacy resources** has a profound impact upon the choices that can be made. At a basic level, the availability of braille and print books and writing devices is important. Also important is the **availability of equipment to enhance print** (large print books, computers

and printers, lighting, low vision optical devices, electronic optical devices), to produce braille (e.g. computers and embossers, teams of transcribers) and to work electronically (e.g. computers with screen enlargement or speech software). This has a key impact upon reading assessment.

An extensive search using Google Scholar and University of Birmingham library catalogue using a variation of search terms **did not yield any published papers on EGRA adaptation** for visually impaired children in peer-reviewed journals. There are however four specific studies in the grey literature (in Malawi, Lesotho, the Philippines, and Uganda), which used an adapted version of the EGRA with students with visual impairments, providing limited evidence on the process and justification for the adaptations made to the tool.

Previous adaptations of reading assessment tools for braille readers and print readers with low vision have involved three categories of modifications, which were the basis for an annotated French version of the EGRA for Mali. As a result, Sightsavers created 4 new tools in French:



A session was organised in February 2018 for 3 Ministry of Education representatives and 3 teachers to present the project and the EGRA adapted tests and guidelines. These forms were then piloted (February 2018) in 2 schools in Bamako, with 4 children with low vision and 6 blind children. Feedback from assessors and students was incorporated into the final version of the EGRA for Mali, in late 2018.

## Results of the adapted EGRA

In May 2018, a training session on application of the newly adapted EGRA took place at the Sightsavers Country Office in Mali, with three assessors from the Ministry of Education, six itinerant teachers, one staff from Gao special school, one education coordinator from the Malian Blind Union (Union Malienne des Aveugles (UMAV)), and two Sightsavers staff (programme manager and global technical lead). During this training, the Ministry of Education validated the EGRA guidelines and test adaptations.

In association with Sightsavers and UMAV,<sup>3</sup> the MEN-DNP then rolled out the EGRA to students with visual impairments in five mainstream and two special schools in three different regions of Mali.<sup>4</sup> Fifty-six students in Grades 1-4 participated in the EGRA. Table 1 presents the characteristics of the students participating in this first wave of testing.

**Table 1: Breakdown of student's gender, reading median and grades for 7 schools**

School	Gender	Reading median	Total no. of students (and grades)
<b>INAM</b>	7 boys, 5 girls	Braille	12 = (1 <sup>st</sup> =3, 2 <sup>nd</sup> =3, 3 <sup>rd</sup> =3, 4 <sup>th</sup> =3)
<b>IRJA</b>	3 boys, 3 girls	Braille	6 = (1 <sup>st</sup> =2, 2 <sup>nd</sup> =2, 4 <sup>th</sup> =2)
<b>FANA</b>	3 boys, 5 girls	Print	8 = (3 <sup>rd</sup> =1, 4 <sup>th</sup> =7)
<b>Balla Camara</b>	4 boys, 4 girls	Print	8 = (2 <sup>nd</sup> =2, 3 <sup>rd</sup> =2, 4 <sup>th</sup> =4)
<b>Darsalam</b>	4 boys, 4 girls	Print	8 = (2 <sup>nd</sup> =3, 3 <sup>rd</sup> =3, 4 <sup>th</sup> =2)
<b>Sido-Soninkoura</b>	3 boys, 3 girls	3 Braille, 3 Print	6 = (2 <sup>nd</sup> =2, 3 <sup>rd</sup> =2, 4 <sup>th</sup> =2)
<b>Prospere Camara</b>	2 boys, 6 girls	Print	8 = (3 <sup>rd</sup> =5, 4 <sup>th</sup> =3)
<b>Total</b>	<b>26 boys/30 girls</b>		<b>56</b>

## Assessment of the adapted EGRA procedure

A detailed analysis of a sample of 14 completed assessments (25%) with a range of characteristics (table 2) showed that there were no apparent problems with the

<sup>3</sup> Union Malienne Des Aveugles.

<sup>4</sup> 21 children who were blind and 35 children with low vision.

administering of the EGRA to braille and print readers and the guidelines for assessors appeared to be applied broadly appropriately. The only issue raised was on some inconsistencies in the formatting of the EGRA (both the assessment instructions / score sheet and possibly the reading materials for students).

Recommendations for reading and writing practice based on observations by assessors and students are presented in box 1.

#### **Box 1**

- Students who use braille and print both need a strong foundation in phonics and vocabulary to progress in their reading skills. A high level of practice is fundamental.
- Braille readers have the added requirement to receive and assimilate explicit instruction on the features of reading braille including hand skills, spatial positioning concepts, tactile discrimination of dots, efficient tracking skills; as well as punctuation signs and use of braille tools (braille, slate and stylus).
- Teachers are encouraged to use a range of activities (e.g., short digital stories) to help students become proficient and confident readers.

## **Reading speed results**

The reading speed targets set by the Malian Ministry of Education (DNP – Direction Nationale de la Pédagogie)<sup>5</sup> for children without special educational needs/disabilities (SEND) affecting their ability to read print are the following:

- 20 familiar words per minute if in grade 1
- 31 familiar words per minute if in grade 2
- 45 familiar words per minute if in grade 3
- 61 familiar words per minute if in grade 4

For the adapted EGRA test, children who are blind were asked to read a list of up to 50 familiar words and were given up to 3 minutes to do so. Children with low vision were asked to read a list of up to 50 familiar words and were given up to 2 minutes to do so. Results of these tests are presented in tables 1 and 2 in the Annex.

The performance data leads to the following conclusions:

- **It is difficult to extrapolate the results to other settings for two reasons:** 1) the sample sizes are small and vary between type of impairment and grade, and 2) there are significant variations in performance within each grade, which potentially reflect the varying standard education provision received by the children (quality of classroom instruction, availability of assistive devices, lighting condition, etc.), the type of

<sup>5</sup> *Décision No. 04336/MEALN-SG Portant standards en lecture dans les classes de l'Enseignement fondamental* (4 November 2011).

curriculum being delivered, the level and quality of home-based educational support, and the children's levels of language development, the children's eye conditions (including rapid sight loss), and potential additional disabilities and difficulties.

- **In this sample, children with low vision generally (but not always) read faster and more accurately than children who are blind, particularly in the lower grades.** This is in line with the findings of research that has compared the reading fluency and accuracy of the two groups of children.<sup>6</sup> However, some of the braille users in the study were very proficient readers. It should also be noted that, generally speaking, children with visual impairments – both children who are blind and children with low vision – read more slowly than their fully-sighted counterparts, as reading is also a more tiring and effortful process for them.<sup>7</sup> For blind children, this is because of the challenges associated with reading through touch. For children with low vision, this is because of the challenges associated with visually processing print.
- **Many children with visual impairment benefited from the extra time.** Even though some children with visual impairment were unable to read a very small number of words or no words at all, even with extra time, most children with visual impairment benefitted from the extra time. In fact, some read a very large number of familiar words correctly.

## Recommendations

In light of the above, Sightsavers recommends the following considerations when applying the adapted version of EGRA in Mali:

1. **Children with visual impairments should be given extra time to complete EGRA and other reading tests.** We recommend that if fully-sighted children are given one minute to read a set number of words, children with low vision could be given two minutes and children who are blind three minutes. However, it should also be recognised that many children with visual impairment – for reasons beyond their control – will struggle to achieve this standard, and some children with visual impairment will never be able to achieve this standard.
2. **When taking tests and examinations, children with visual impairment not only require extra time, but other accommodations as well.** For instance, test/examination papers should be in appropriate formats (i.e. braille and large print). Sightsavers have produced EGRA guidelines identifying ways in which

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<sup>6</sup> Best, A., 1992. *Teaching Children with Visual Impairments*. Open University: Milton Keynes. McCall, S., 1997. 'The development of literacy through touch', in Mason, H, McCall, S., *Visual Impairment: Access to Education for Young People* (pp.143-158). David Fulton, London. McCall, S, 2016. Building fluency in Braille – Unit for RNIB online course on teaching braille literacy to children. VICTAR/University of Birmingham: Birmingham.

<sup>7</sup> *Ibid.*

EGRA should be delivered to children with visual impairments.<sup>8</sup> See box below for an outline of the necessary adjustments.

### **Outline of EGRA Guidelines for those assessing children with vision impairment**

Sightsavers produced a set of guidelines to use, alongside the standard EGRA Toolkit Handbook, to assess children with vision impairment using the adapted EGRA (EGRA-Braille or EGRA-Low Vision). They include:

- Training needs and who should administer EGRA
- Details of the assessment material – the ‘cahier de stimuli’
- Changes and additions to the instructions to be used when using EGRA-Braille and EGRA-Low Vision, including issues of timing and environmental conditions such as lighting and a comfortable reading position.
- A checklist for preparing for the assessment, including characteristics of the assessor, required materials, preparing the testing area, and student equipment.
- Considerations for the analysis of the test outcomes, such as scoring and interpreting the EGRA

- 3. DNP should make it clear to education stakeholders – especially inspectors, teachers and parents – that many children with visual impairment can become fast and fluent readers, if provided with the necessary support, stimulus and encouragement.** Many children with visual impairment will find reading challenging, especially if they have to transition from print to braille. There should be a clear policy against negative attitudes towards children who are unable to meet grade-specific reading-standards. Instead, achievements should be acknowledged and celebrated. Education stakeholders should use EGRA as monitoring instruments – to monitor children’s progress over the time. They should also use EGRA diagnostically – to identify the different levels and types of support required by children with visual impairment.
- 4. It is important that tests and examinations are accessible for all students with disabilities, not just children with visual impairment.** Sightsavers is willing to assist DNP to achieve this.

## **Way forward for a more inclusive environment for learning**

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<sup>8</sup> Sightsavers, 2018. Early Grade Reading Assessment (EGRA) – Mali: Guidelines for those assessing children with vision impairment. Sightsavers/VICTAR: Mali.

The generally positive outcome of the EGRA adaptation for Mali and the need to pay further attention to integrating children with disabilities into testing mechanisms now **calls for strong advocacy so that the MoE, donors, and NGOs support rolling out the adapted EGRA**. As of November 2020, several institutions are using the adapted EGRA to measure literacy in schools with visually impaired pupils in several cities in Mali, including Humanity and Inclusion and the Ministry of Education in Sikasso.

Importantly, reducing the barriers to access to literacy will require **the deployment of assessors deployed by the Ministry of Education who are trained in the adapted test** and who are familiar with its guidelines before administration. **Collaboration with OPDs** will be essential, including for logistical issues like translation, facilitation, and equipment.



The **reading curriculum and teacher's pedagogy material** should also take into consideration the specific needs of children with visual impairments. VICTAR has created a 5-day module to train teachers in a pedagogical approach for children with visual impairment. This module addresses, among other things, teaching methods and factors to increase reading ability, how to support students with basic environmental set-ups and equipment, and the use of Braille. It includes suggested activities for both children with visual deficiency and children who are blind.

Now that the test has been adapted in French, we need to work towards an adaptation in Bamanankan, which is part of the national mother-tongue programme for the first three grades of primary education. In July 2020, in collaboration with the Malian language academy (Académie Malienne des Langues, AMALAN), the Faculty for Literature, Language and Language Science (La Faculté des Lettres, des Langues et Sciences du Langage, FLSL) from University of Bamako, l'Union Malienne des Aveugles (UMAV), the Ministry of Education and Sightsavers published a **guide on adaptations of Braille to Bamanankan**. In time, adapting the EGRA to Bamanankan this ensure that children with a visual impairment studying in that language are able to be tested on their learning alongside their sighted peers.

A next step will also involve considering the implications of this successful adaptation of EGRA on **testing children with visual and hearing impairments in other subjects**, such as mathematics through EGMA and EGRA for hearing.



The process of adapting EGRA for children with visual impairment in Mali has revealed some of the difficulties that children with low vision and blindness experience when learning to read. Access to learning material, in particular reading material, at school and at home, is one of them. Sightsavers has produced a **leaflet with simple ideas on how families can support their visually-impaired student in gaining literacy**, but more is needed.



In resource-constrained settings like Mali, access to technology that provides students with independent access to large print sizes is not always a viable option. It is therefore also important to **consider ways of introducing simple, low cost non-optical devices** such as reading stands and optical devices such as a range of magnifying glasses which can be used in combination with reading glasses and wide brimmed hats (e.g. children with albinism), lighting and time of the day when reading is performed.

## APPENDIX

TABLE 1

Grade	Child	Number of words correctly read/ Total number of words read	Time needed	Summary
<b>1<sup>st</sup> Grade</b>	Child 1	0/5	Stopped <sup>9</sup>	Given a list of 50 words and up to 3 minutes to read the words, the children on average read 3 words correctly. On average, it took them 3 minutes to read these words.
	Child 2	0/5	Stopped	
	Child 3	1/13	3 min	
	Child 4	6/36	3 min	
	Child 5	6/23	3 min	
<b>2<sup>nd</sup> Grade</b>	Child 1	21/37	3 min	Given a list of 50 words and up to 3 minutes to read the words, the children on average read 11 words correctly. On average, it took them 3 minutes to read these words.
	Child 2	14/21	3 min	
	Child 3	9/19	3 min	
	Child 4	0/5	Stopped	
	Child 5	14/22	3 min	
	Child 6	5/23	3 min	
<b>3<sup>rd</sup> Grade</b>	Child 1	48/50	1 min 40'	Given a list of 50 words and up to 3 minutes to read the words, the children on average read 34 words correctly. On average, it took them 2 minutes 33 seconds to read these words.
	Child 2	28/31	3 min	
	Child 3	26/32	3 min	
<b>4<sup>th</sup> Grade</b>	Child 1	18/40	3 min	Given a list of 50 words and up to 3 minutes to read the words, the children on average read 27 words correctly. On average, it took them 2 minutes 27 seconds.
	Child 2	0/5	Stopped	
	Child 3	47/50	2 min 36'	
	Child 4	48/50	2 min 50'	
	Child 5	33/50	3 min	
	Child 6	25/29	3 min	
	Child 7	16/50	3 min	

<sup>9</sup> When the child could not read the first five words, the administrator stopped the test, as per the EGRA guidelines. When calculating the average number of words read by the children for each grade, the totals for these children (i.e. zero) were included in this calculation. However, when calculating the average time taken by children in each grade to read the words, we did not include the times of these children.

TABLE 2

TABLE 2

Grade	Child	Number of words correctly read/ Total number of words read	Time needed	Summary
<b>1<sup>st</sup> Grade</b>	No data were collected from 1 <sup>st</sup> Grade students. <sup>10</sup>			
<b>2<sup>nd</sup> Grade</b>	Child 1	46/50	1 min 30'	Given a list of 50 words and up to 2 minutes to read the words, the children on average read 26 words correctly. On average, they needed 1 minute 54 seconds to read these words.
	Child 2	14/29	2 min	
	Child 3	18/34	2 min	
	Child 4	25/34	2 min	
	Child 5	7/20	2 min	
	Child 6	26/44	2 min	
	Child 7	47/50	1 min 50'	
<b>3<sup>rd</sup> Grade</b>	Child 1	34/50	1 min 30'	Given a list of 50 words and up to 2 minutes to read the words, the children on average read 30 words correctly. On average, it took them 1 minute 38 seconds to read these words.
	Child 2	33/38	2 min	
	Child 3	27/34	2 min	
	Child 4	29/50	2 min	
	Child 5	0/5	Stopped <sup>11</sup>	
	Child 6	1/20	2 min	
	Child 7	0/5	Stopped	
	Child 8	49/50	1 min 26'	
	Child 9	49/50	44'	
	Child 10	47/50	1 min 44'	
	Child 11	49/50	1 min	
	Child 12	40/46	2 min	

<sup>10</sup> This is presumably because there were no children with low vision in the sample schools or because the children with low vision had not yet been identified.

<sup>11</sup> When the child could not read the first five words, the administrator stopped the test, as per the EGRA guidelines. When calculating the average number of words read by the children for each grade, the totals for these children (i.e. zero) were included in this calculation. However, when calculating the average time taken by children in each grade to read the words, we did not include the times of these children in this calculation.

<b>4<sup>th</sup> Grade</b>	Child 1	17/22	2 min	Given a list of 50 words and up to 2 minutes to read the words, the children on average read 31 words correctly. On average, it took them 1 minute 33 seconds to read these words.
	Child 2	18/35	2 min	
	Child 3	0/5	Stopped	
	Child 4	0/5	Stopped	
	Child 5	34/50	1 min 22'	
	Child 6	6/41	2 min	
	Child 7	49/50	2 min	
	Child 8	50/50	1 min 50'	
	Child 9	50/50	53'	
	Child 10	46/50	1 min 13'	
	Child 11	26/50	1 min 45'	
	Child 12	47/50	1 min	
	Child 13	43/50	1 min 10'	
	Child 14	18/31	2 min	
	Child 15	38/50	1 min 23'	
	Child 16	50/50	56'	

We work with partners in low and middle income countries to eliminate avoidable blindness and promote equal opportunities for people with disabilities.

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