Rwanda Early Grade Reading Assessment for Learners with Disabilities

Adaptation Workshop Process Report

July 2023

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Contents

Acronyms

ACR GCD	All Children Reading: A Grand Challenge for Development
CBC	Competence Based Curriculum
CPD	Continuous Professional Development
DELITES	USAID Deaf Education Language of Instruction Transition in Education Systems
EGRA	Early Grade Reading Assessment
ESSP	Education Sector Strategic Plan
GoR	Government of Rwanda
GS	Groupe Scolaire
IEP	Individualized Education Program
KII	Key Informant Interview
LARS	Learning Achievement in Rwandan Schools
LEGRA	Local Early Grade Reading Assessment
MINEDUC	Rwanda Ministry of Education
NCPD	National Council of Persons with Disabilities
NECDP	National Early Childhood Development Program
NESA	National Examination and School Inspection Authority
NUDOR	National Union of Disability Organizations of Rwanda
OIPPA	Organisation for Integration and Promotion of People with Albinism
OPD	Organization of persons with disabilities
P1	Primary 1
P2	Primary 2
P3	Primary 3
RDSO	Rwanda Down Syndrome Organisation
REB	Rwanda Basic Education Board
RNADW	Rwanda National Association of Deaf Women
RNUD	Rwanda National Union of the Deaf
ROPDB	Rwanda Organisation of Persons with Deaf Blindness
RSL	Rwandan Sign Language
RUB	Rwanda Union of the Blind
SEN	Special Education Needs
SHARE	USAID Supporting Holistic and Actionable Research in Education
STS	School-to-School International
UDA	Universal Design for Assessment
UNICEF	United Nations International Children's Emergency Fund
UR-CE	University of Rwanda-College of Education
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VIP	Very Important Person
VSO	Voluntary Service Overseas
WGQ	Washington Group Questions

Introduction

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All Children Reading: A Grand Challenge for Development (ACR GCD), established in 2011 as a partnership between the U.S. Agency for International Development (USAID), World Vision, and the Australian Government, advances EdTech innovation and research to improve reading outcomes for marginalized children in low-resource contexts. ACR GCD is an ongoing series of competitions that leverages science and technology to source, test, and disseminate scalable solutions to improve literacy skills of early grade learners in developing countries. The global initiative focuses on sourcing new solutions, testing new ideas, accelerating, and scaling what works.

ACR GCD Partners, including USAID Washington and USAID Rwanda, identified the creation of adapted literacy assessment tools for learners with disabilities in Rwanda as a priority funding area. Consequently, ACR GCD engaged School-to-School International (STS), its monitoring, evaluation, research, and learning partner, to provide technical leadership for an Early Grade Reading Assessment (EGRA) adaptation workshop for learners with disabilities. STS collaborated closely with USAID Rwanda, ACR-GCD's Kigali-based expert consultant, USAID Tunoze Gusoma, and USAID Uburezi Iwacu throughout the entire adaptation process.

The ultimate purpose of the workshop was to design learning assessment tools that better enable learners with disabilities to demonstrate their literacy skills. The specific goals of the adaptation workshop were:

- To develop Kinyarwanda-medium EGRA tools for Primary 1 (P1), Primary 2 (P2), and Primary 3 (P3) learners who are deaf or hard of hearing and who are blind or have low vision that can be used by USAID Tunoze Gusoma and other implementers

- To develop new Rwandan Sign Language (RSL) subtasks that can be used by USAID Tunoze Gusoma, USAID Supporting Holistic and Actionable Research in Education's (SHARE), Deaf Education Language of Instruction Transition in Education Systems (DELITES), and other implementers

- To build the capacity of workshop participants to conduct similar adaptations in the future for other related instruments used in Rwanda, such as the Learning Achievement in Rwandan Schools (LARS) and Local Early Grade Reading Assessment (LEGRA)

This report documents the steps taken prior to and during the workshop, with the goal of providing guidance to other organizations and stakeholders that hope to undertake a similar adaptation process.

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All Children Reading: A Grand Challenge for Development is an ongoing series of competitions that leverages science and technology to source, test, and disseminate scalable solutions to improve early grade literacy skills in developing countries.

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Pre-Workshop Activities 2

Literature Review

In November and December 2022, STS undertook a review of available literature that describes the Rwandan curriculum, educational policies for learners with disabilities, and literacy levels of primary-aged learners. Five questions guided the literature review:

1. What approaches have been used in previous learning assessment tools that enable learners with disabilities to demonstrate their literacy skills? How effective have these approaches been in assessing what learners know (as opposed to what they do not know)?

2. What guidance does the Rwanda Ministry of Education (MINEDUC) / National Examination and School Inspection Authority (NESA) provide for assessing learners with disabilities?

3. What kinds of information does MINEDUC/NESA already collect around learners with disabilities' academic performance?

4. What are government policies on curriculum for learners with disabilities? Language of instruction? Different by type of school (segregated/integrated/inclusive)?

5. What are government policies on reasonable accommodations for learners with disabilities?

The literature review ensured that STS had a foundational understanding of the teaching and learning context for learners with disabilities in Rwanda, to enable informed decision-making prior to and during the adaptation workshop. A list of the literature reviewed and a summary of key learnings are included in Appendix A.

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The literature review ensured that STS had a foundational understanding of the teaching and learning context for learners with disabilities in Rwanda.

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Key Informant Interviews

In November and December 2022, STS also undertook a series of key informant interviews (KIIs) to further strengthen its understanding of the teaching and learning context for learners with disabilities in Rwanda. The KIIs aimed to incorporate the perspectives of classroom teachers whose experiences may not have been adequately represented in the literature reviewed. ACR GCD's Kigali-based expert consultant conducted KIIs with six teachers in special and inclusive schools throughout Rwanda, using a set of semi-structured interview questions as a guide (see Appendix B).

The KII results illuminated learnings across seven themes (see Appendix C):

1. Classroom environment

2. Curriculum

3. Teaching and learning resources

4. Teaching methodologies for students who are deaf and students who are blind

5. Assessments and tests

6. Teachers' competence in RSL and braille

7. Challenges in teaching students who are deaf and students who are blind

STS utilized the learnings from the KIIs to guide the adaptation workshop activities and decision-making processes.

Identification of Adaptation Workshop Participants

Workshop participants are critical to the creation of appropriate adapted EGRAs for learners who are deaf or hard of hearing and learners who are blind or have low vision. STS worked closely with ACR GCD's Kigali-based expert consultant to identify the most appropriate participants for the adaptation workshop. STS generally recommends prioritizing a limited number of participants, focused on those with technical expertise, as most of the sessions in an adaptation workshop require a deep understanding of the content that would be appropriate for learners and assessment design. These include classroom teachers of learners with disabilities, representatives from organizations of persons with disabilities (OPDs), individuals who are deaf, individuals who are blind, and any other technical experts, such as curriculum specialists or assessment specialists. It is sometimes appropriate to include other stakeholders— such as generalists in government positions and implementing partner staff—if a goal of the adaptation workshop is to build capacity and raise awareness for the importance of creating adapted assessments.

> Workshop participants are critical to the creation of appropriate adapted EGRAs for learners who are deaf or hard of hearing and learners who are blind or have low vision.

STS and ACR GCD's Kigali-based expert consultant created a participant list that included the priority groups listed above. USAID Rwanda and the National Examination and School Inspection Authority (NESA) also reviewed the participant list and provided feedback and additional invitees. Finally, many of the organizations and individual invitees also proposed additional participants. Ultimately, the participant list was comprised of representatives from the following institutions:

- **Government institutions**
  Ministry of Education (MINEDUC), National Examination and School Inspection Authority (NESA), Rwanda Basic Education Board (REB), University of Rwanda-College of Education (UR-CE) School of Inclusive and Special Needs Education, National Council of Persons with Disabilities (NCPD)

- **Education development implementing partners**
  USAID Rwanda, USAID Tunoze Gusoma, USAID Uburezi Iwacu, World Vision Rwanda, USDA Food for Education, eKitabu, UNICEF, World Bank, VSO, Humanity & Inclusion, USAID SHARE

- **Organizations of persons with disabilities**
  National Union of Disability Organizations of Rwanda (NUDOR), Rwanda Union of the Blind (RUB), Rwanda National Union of the Deaf (RNUD), Organisation for Integration and Promotion of People with Albinism (OIPPA), Rwanda National Association of Deaf Women (RNADW), Rwanda Organisation of Persons with Deaf Blind (ROPDB)

- **Primary schools**
  Nyamirambo School for the Deaf, Ubumwe Community Centre, Nyabihu School for the Deaf, Centre Komera, Nyahibu School for the Deaf, HVP Gatagara-Rwamagana, Educational Institute for the Blind, HVP Gatagara-Huye, GS Gahini, Blessing School, GS Kabatwa, Network of Deaf Schools, HVP Gatagara-Gikondo

- **Organizations specialized in supporting learners with intellectual disabilities**
  Collectif Tubakunde, Liliane Foundation, Autisme Rwanda, Rwanda Down Syndrome Organisation (RDSO)

ACR GCD's Kigali-based expert consultant coordinated directly with NESA to finalize and distribute the workshop invitations.

Workshop Activities

Three STS representatives, one ACR GCD representative, and ACR GCD's Kigali-based expert consultant (collectively, the facilitator team) led the adaptation workshop from January 28 to February 6, 2023, at the Lemigo Hotel in Kigali (Table 1) (see Appendix D for full agendas). The key purposes of the adaptation workshop were to:

- Determine what RSL subtask(s) should be developed for the assessment

- Review and revise assessment protocols to ensure inclusive access to the EGRA for learners who are deaf or hard of hearing and learners who are blind or have low vision

- Review subtask content from the existing Kinyarwanda EGRA and make minor changes to the content based on the curricula and/or instructional content for learners who are deaf or hard of hearing and learners who are blind or have low vision

- Pretest subtask content and protocols in schools prior to finalization of pilot versions of the adapted EGRAs

- Provide light-touch training to pretest enumerators

- Determine the skills/profiles of assessors/enumerators for the adapted EGRAs and confirm the type of scoring that will be done (live scoring, asynchronous scoring)

- Determine the next steps in the development of an adapted tool for learners with intellectual disabilities

Because Rwandan teachers are not permitted to miss classes for professional development on school days, workshop days took place over two consecutive weekends.

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Three STS representatives, one ACR GCD representative, and ACR GCD's Kigali-based expert consultant (collectively, the facilitator team) led the adaptation workshop from January 28 to February 6, 2023.

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Table 1: Adaptation Workshop Activities

Date	Activity	Details	Number of Participants[1]
Saturday January 28	Adaptation workshop day 1	Introduction and EGRA content review in groups	65
Sunday January 29	Adaptation workshop day 2	Continuation of EGRA content review in groups	56
Monday January 30	Mini-enumerator training 1	Preparation and enumerator practice before pretest 1	23
Tuesday January 31	Pretest 1	Pretesting of content reviewed to date in workshop	22
Saturday February 4	Adaptation workshop day 3	Review of pretest 1 and continuation of EGRA content review and content development in groups	45
Sunday February 5	Mini-enumerator training 2	Preparation and enumerator practice for pretest 2; only for the EGRA for learners who are deaf or hard of hearing	12
Monday February 6	Pretest 2	Pretesting of remaining content reviewed in workshop; only for the EGRA for learners who are deaf or hard of hearing	10

STS distributed soft-copy PowerPoints in advance of the workshop to ensure participants who are blind could review materials in advance via text-to-speech software. STS also printed braille copies of workshop agendas and workshop handouts, using a Kigali-based printing company owned by one of the workshop participants. Three RSL interpreters attended the workshop, one of which provided tactile interpretation to a participant who is deafblind.

On January 27, members of the facilitator team conducted courtesy visits with government of Rwanda education stakeholders at REB and NESA. During these meetings, the facilitator team oriented stakeholders to ACR GCD and the goals and objectives of the adaptation workshop.

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[1]   Including facilitators

Workshop Days 1 and 2
January 28–29

The activities on day 1 and 2 of the workshop included:

- An introduction to the activity and goals of the workshop

- A deep dive into EGRA, EGRAs for learners with disabilities, and Universal Design for Assessment (UDA)

- A review of the USAID Tunoze Gusoma LEGRA adaptations for learners with disabilities

- Small group work to review, revise, and create new subtasks for the EGRA for learners who are deaf or hard of hearing and for learners who are blind or have low vision

- Small group work to plan for an EGRA for learners with intellectual disabilities

On day 1, after the overview sessions, STS divided the 61 participants into three small groups. Group 1 focused on reviewing content for the EGRA for learners who are deaf or hard of hearing, group 2 focused on reviewing content for the EGRA for learners who are blind or have low vision, and group 3 focused on a process discussion about what is needed to develop an EGRA for learners with intellectual disabilities.

On days 1 and 2, groups 1 and 2 reviewed and revised content and instructions for EGRA subtasks included on the 2018/2022 Kinyarwanda-medium EGRA for P1 and P2 (Table 2).[2, 3]

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2   USAID Soma Umenye developed the 2018 Kinyarwanda-medium EGRA tool for P1–P3. USAID Tunoze Gusoma administered the same P2 EGRA in 2022 for its baseline assessment.

3   STS determined that the P3 EGRA tool for learners who are deaf or hard of hearing would not be adapted during the workshop, due to time restraints and the potential for floor effects on the tool.

Table 2: 2018/2022 EGRA Subtasks and Adapted EGRA Subtasks

Existing EGRA Subtask	Skill Demonstrated in Existing EGRA (USAID, 2022a)	Adapted EGRA Subtask	Notes
Letter sound identification	Provide the sound of letters presented in both upper- and lower-case in a random order	• Learners who are deaf or hard of hearing: *Letter identification* • Learners who are blind or have low vision: *Letter identification*	For learners who are deaf or hard of hearing: requires knowledge of the corresponding sign for a print letter
Syllable sound identification	Provide the sound of syllables presented in both upper- and lower-case in a random order	• Learners who are deaf or hard of hearing: *N/A* • Learners who are blind or have low vision: *Syllable sound identification*	Not included for EGRA for learners who are deaf or hard of hearing; more research needed to determine if this is a meaningful subtask for these learners
Familiar word reading	Read the words presented in a random order	• Learners who are deaf or hard of hearing: *Familiar word reading* • Learners who are blind or have low vision: *Familiar word reading*	For learners who are deaf or hard of hearing: requires reading comprehension and knowledge of corresponding sign for the print word
Oral (expressive) reading fluency	Read a text with accuracy and little effort at a sufficient rate	• Learners who are blind or have low vision: *Oral (expressive) reading fluency*	
Reading comprehension[4]	Respond correctly to different types of questions, including literal and inferential, about the text read	• Learners who are deaf or hard of hearing: *Sentence reading comprehension* • Learners who are blind or have low vision: *Reading comprehension*	For learners who are deaf or hard of hearing: significantly adapted to become a sentence reading comprehension subtask; requires reading comprehension and knowledge of RSL to answer comprehension questions
Listening comprehension	Respond correctly to different types of questions, including literal and inferential, about the text the enumerator reads to them	• Learners who are deaf or hard of hearing: *RSL story comprehension levels 1 and 2* • Learners who are blind or have low vision: *Listening comprehension*	For learners who are deaf or hard of hearing: significantly adapted to become a RSL story comprehension for levels 1 and 2; for level 1, the enumerator signs a sentence and asks a comprehension question (eight sentences total); for level 2, the enumerator signs a full story and then asks five comprehension questions

4   Reading comprehension for learners who are deaf or hard of hearing is measured through the sentence reading comprehension subtask.

STS provided groups 1 and 2 with a list of P1 and P2 items from existing reading assessments—2018/2022 EGRA, Term 1 LEGRA, Term 2 LEGRA, and LARS 2016—previously validated and administered in Rwanda.[5] Participants reviewed all items and instructions using the criteria noted in Table 3, which are based on UDA principles.[6]
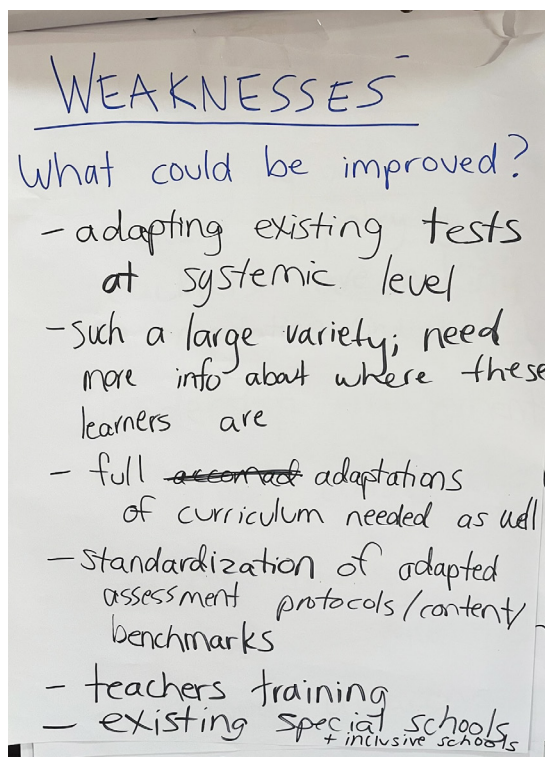
Based on these criteria, participants determined which items and instructions needed to be updated and made suggested updates.[7] By the conclusion of day 2, group 1 had reviewed letter sound identification, familiar word reading, and RSL story comprehension (level 1);[8] group 2 had reviewed all EGRA subtasks.

### **Table 3:** UDA-Aligned Assessment Review Criteria

1. Is the item/instruction offensive, insensitive, stereotypical, or biased against any group (think about geography, gender, disability, or other demographic characteristics)?

2. Is the item/instruction idiomatic (for example, "think outside the box," "brainstorm ideas")?

3. Is the item/instruction culturally specific (for example, reference to a holiday or celebration)?

4. Does the item use universal names that are culturally diverse and common?

5. Is the item part of the P1 or P2 curriculum provided to learners in any of the teachers' classrooms?

6. How many signs are used for the item, in RSL or local sign language (if applicable)?

7. Does any part of the instructions exclude learners with disabilities? Are any of the instructions inappropriate for learners with disabilities (references to looking, hearing, etc.)?

8. Are the instructions clear, concise, and understandable to the target learner group?

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[5] Groups revised the 2018 EGRA content in addition to the other tools in the case because some items from the 2018 EGRA needed to be removed and replaced based on the review criteria. This was the case for the EGRA for learners who are deaf or hard of hearing, but not for the EGRA for learners who are blind or have low vision.

[6] These principles include: "inclusive assessment population; precisely defined constructs; accessible, non-biased items; amenable to accommodations; simple, clear, intuitive instructions and procedures; maximum readability and comprehensibility; (and) maximum legibility" (University of Minnesota, n.d.).

[7] Small groups were split into even smaller groups so that multiple tasks could be conducted simultaneously. For example, group 1 was split into three smaller groups – one that focused on P1 content, one that focused on P2 content, and one that focused on instructions revisions and reviewing an item bank of vocabulary words.

[8] Group 1 also conducted a review of an item bank of vocabulary words and clipart for the RSL vocabulary subtasks.

WEAKNESSES

What could be improved?
- adapting existing tests at systemic level
- Such a large variety; need more info about where these learners are
- full ~~accurat~~ adaptations of curriculum needed as well
- standardization of adapted assessment protocols/content/ benchmarks
- teachers training
- existing special schools + inclusive schools

Intellectual Disability (ID)
Goal: Develop roadmap for adapting EGRA for learners w/ID
Session 1:
· Define ID
· Current state of teaching learners w/ID
Session 2:
· Current state of assessing learners w/ID
Session 3:
· Identify next steps in adapting EGRA (who, what, key questions)

Session 2:
What kinds of assessments are available in Rwanda for assessing reading skills of learners w/ID?
- LARS + EGRA are not adapted
- teachers make their own tests

Session 3:
Next Steps   Who?
- info gathering
- identify level of learners
- training for NESA staff
- developing ind. pre-post test
- identify challenges faced by learners w/ ID + organize workshop to review existing tools + brainstorm how to fill gaps
- piloting
- develop IEPs

On day 1, group 3 met to discuss key issues related to the development of an EGRA for learners with intellectual disabilities. This one-hour brainstorm session began with a discussion of the definition of intellectual disabilities and what learners are included in this group. Then the group discussed the current state of teaching and assessing reading for learners with intellectual disabilities in Rwanda. Finally, the group discussed what steps are required to adapt existing reading assessments for learners with intellectual disabilities (see Appendix E).[9] Group 3 was not convened on day 2 of the workshop.
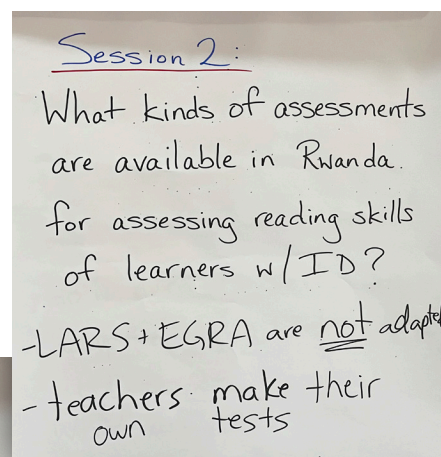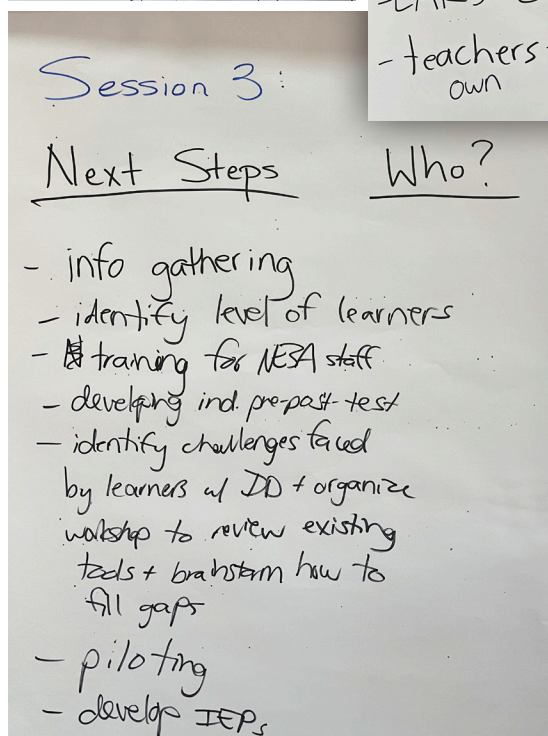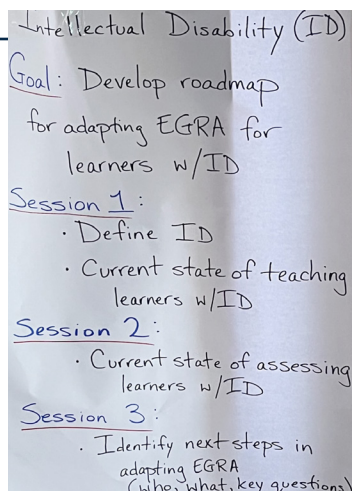
9   Due to a delayed start and earlier workshop sessions running long, this session which was originally planned for two hours had to be condensed into one hour.

Mini Enumerator Training 1
January 30

The STS team led the first of two mini-enumerator trainings with workshop participants who had been preselected to serve as enumerators. The training reviewed best practices for EGRA test administration and provided participants a chance to practice during role-plays with each other. The training was targeted to only the subtasks that would be pretested the following day (Table 4). For learners who are deaf or hard of hearing, pretest subtasks were chosen because they demonstrate different types of language and literacy skills–a relatively higher order language subtask, and two foundational literacy subtasks. For learners who are blind or have low vision, the four more challenging subtasks of the assessment were chosen for pretesting, based on the assumption that letter sound identification and listening comprehension would be easier for learners.

Table 4: Pretest 1 Subtasks

Assessment	Subtask Pretested	Details
EGRA for learners who are deaf or hard of hearing	Letter identification	100 items; subtask not timed; same items for P1 and P2; no autostop applied
	Familiar word reading	50 items; subtask not timed; different items for P1 and P2; no autostop applied
	RSL story comprehension (level 1)	Nine sentences and corresponding questions; subtask not timed; marked for fluency; same items for P1 and P2; no autostop applied
EGRA for learners who are blind or have low vision	Syllable sound identification	100 items; subtask timed to determine appropriate length for final tool; marked for accuracy; different items for P1 and P2
	Familiar word reading	50 items; subtask timed to determine appropriate length for final tool; marked for accuracy; different items for P1 and P2
	Oral (expressive) reading fluency	Two reading passages pretested per grade (P1 story 1: 26 words; P1 story 2: 21 words; P2 story 1: 40 words; P2 story 2: 36 words); subtask timed to determine appropriate length for final tool; marked for accuracy; different items for P1 and P2
	Reading comprehension	Five questions per story; different items for P1 and P2

STS facilitated two parallel trainings: one with enumerators for learners who are deaf or hard of hearing, and one with enumerators for learners who are blind or have low vision. Five enumerators were trained to administer the assessment one-to-one with learners who are deaf or hard of hearing—three deaf enumerators and two hearing enumerators, all of whom are fluent in RSL. Six enumerators were trained to administer the assessment to learners who are blind or have low vision—three enumerators who are blind and three sighted enumerators. For the latter group, enumerators who are blind were trained to administer the assessment, while sighted enumerators served as scorers. This is the first known instance of individuals who are blind being engaged as assessment enumerators.

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This is the first known instance of individuals who are blind being engaged as assessment enumerators.

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Pretest 1
January 31

Enumerators pretested the newly adapted content in two local schools on January 31. Because the pretest took place near the start of the academic year, P2 learners served as a proxy for end-of-year P1 learners, and P3 learners served as a proxy for end-of-year P2 learners. All marking was done on paper and pencil using a scoring sheet per subtask.

During pretest 1, 20 learners who are deaf or hard of hearing were assessed—12 learners on the P1 assessment and eight learners on the P2 assessment. Also, 13 learners who are blind or have low vision were assessed—six learners on the P1 assessment and seven learners on the P2 assessment. Results are detailed in Table 5 and Table 6.

Table 5: EGRA Pretest 1 Results for Learners who are Blind or have Low Vision

Assessment	Subtask	N	% Correct (Incl. Zero Scores)	% Correct (Excl. Zero Scores)	% Zero Score (n)
P1 assessment	Syllable sound identification	6	74.8	90.0	16.7 (1)
	Familiar word reading	6	62.0	93.0	33.3 (2)
	Oral (expressive) reading fluency (version 1)	6	63.5	95.2	33.3 (2)
	Reading comprehension (version 1)	6	63.3	95.0	33.3 (2)
	Oral (expressive) reading fluency (version 2)	6	64.3	96.4	33.3 (2)
	Reading comprehension (version 2)	6	56.7	85.0	33.3 (2)

Table 5 *(continued)*: EGRA Pretest 1 Results for Learners who are Blind or have Low Vision

Assessment	Subtask	N	% Correct (Incl. Zero Scores)	% Correct (Excl. Zero Scores)	% Zero Score (*n*)
P2 assessment	Syllable sound identification[a]	6	94.2	N/A	0 (0)
	Familiar word reading	7	96.6	N/A	0 (0)
	Oral (expressive) reading fluency (version 1)	7	98.9	N/A	0 (0)
	Reading comprehension (version 1)	7	100.0	N/A	0 (0)
	Oral (expressive) reading fluency (version 2)	7	98.0	N/A	0 (0)
	Reading comprehension (version 2)	7	94.3	N/A	0 (0)

Table 6: EGRA Pretest 1 Results for Learners who are Deaf or Hard of Hearing

Assessment	Subtask	N	% Correct (Incl. Zero Scores)	% Correct (Excl. Zero Scores)	% Zero Score (*n*)
P1 assessment	Letter identification	12	99.5	N/A	0 (0)
	Familiar word reading	12	41.0	44.7	8.3 (1)
	RSL story comprehension (level 1)	12	76.6	N/A	0 (0)
P2 assessment	Letter identification	8	99.8	N/A	0 (0)
	Familiar word reading	8	26.0	N/A	0 (0)
	RSL story comprehension (level 1)	8	67.9	N/A	0 (0)

a   One learner did not complete the syllable sound identification subtask.

Workshop Day 3
February 4

On day 3 of the workshop, STS presented results of pretest 1 and facilitated an enumerator debrief, during which enumerators shared their experiences from the pretest day with the other participants. Following this session, STS again divided participants into the same two groups as on days 1 and 2–group 1 for learners who are deaf or hard of hearing, and group 2 for learners who are blind or have low vision.

In small groups, group 1 continued reviewing content and instructions of P1 and P2 subtasks that had been pretested and completed the following:

- Reviewed familiar word reading items for P1 and P2 that had performed poorly (i.e., items that scored 30% accuracy or less), to determine if the items should be retained or removed from the subtask

- Reviewed the RSL story comprehension (level 1) subtask for P1 to ensure coherence between the signed sentence and the comprehension question

- Revised the RSL story comprehension (level 1) subtask for P2 to ensure coherence between the signed sentence and the comprehension question

- Reviewed instructions for all subtasks to ensure coherence

Group 1 also began working on creating new RSL receptive and expressive vocabulary subtasks, reviewing and revising content for the sentence reading comprehension subtask, and reviewing and revising content for the RSL story comprehension (level 2) subtask.

Group 2 discussed lessons learned from the pretest experience and made suggestions for protocols and best practices to apply going forward when implementing EGRAs for learners who are blind or have low vision (see Appendix F). Group 2 also reviewed P3 oral reading fluency and reading comprehension content and instructions and determined that no changes were required.[10]

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> On day 3 of the workshop, STS presented results of pretest 1 and facilitated an enumerator debrief.
> ....

[10] Only these two subtasks were reviewed for P3 because they were the only subtasks on the P1 and P2 assessments that required revisions. Based on this, the facilitator team determined that it was not necessary to review the other P3 subtasks (syllable sound identification and familiar word reading).

At the end of day 3, all content for the second pretest had been reviewed by group 1 and was formatted that evening by the STS team to use during the enumerator training and pretest data collection. However, there was not sufficient time to review and make final decisions on all administration protocols, such as timing, scoring, and autostops for the EGRA for learners who are deaf or hard of hearing. These decisions will need to be made prior to the pilot test and with the guidance of psychometricians.
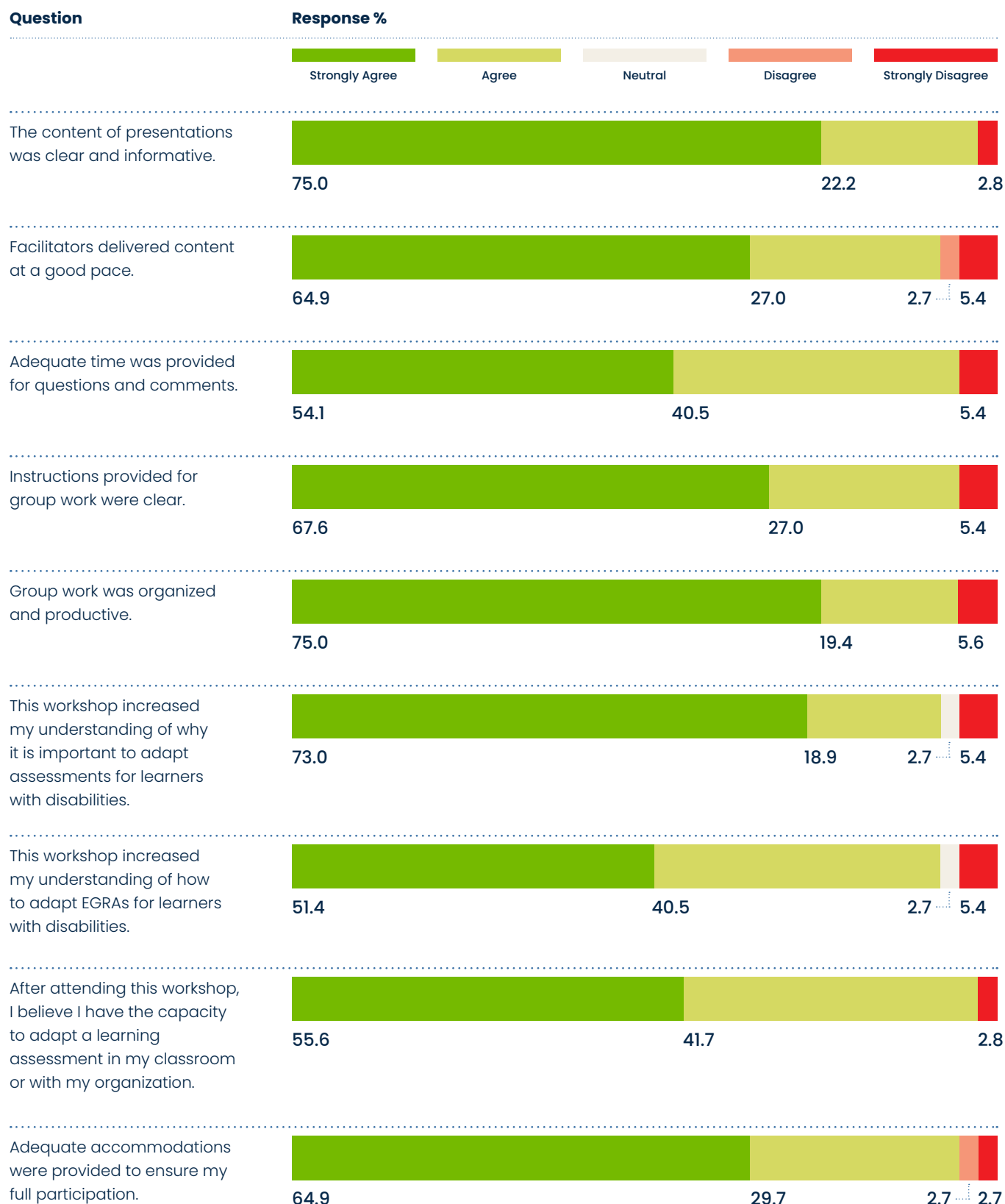
STS determined that it was not necessary to conduct a second pretest for learners who are blind or have low vision, since the changes made to the existing EGRA tools were so minor that they did not warrant any further pretesting and because of learners' performance during pretest 1.

At the end of day 3, participants were invited to fill out a workshop evaluation and feedback form, either in paper or online. A link was also sent out to participants who did not attend day 3. In total, 39 participants responded to the evaluation. The workshop evaluation results are summarized in Table 7 and additional participant comments are listed in Appendix G.

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It was not deemed necessary to conduct a second pretest for learners who are blind or have low vision since the changes to the EGRA tools were very minor.

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Table 7: Workshop Evaluation Results

Question	Response %				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The content of presentations was clear and informative.	75.0	22.2			2.8
Facilitators delivered content at a good pace.	64.9	27.0		2.7	5.4
Adequate time was provided for questions and comments.	54.1	40.5			5.4
Instructions provided for group work were clear.	67.6	27.0			5.4
Group work was organized and productive.	75.0	19.4			5.6
This workshop increased my understanding of why it is important to adapt assessments for learners with disabilities.	73.0	18.9	2.7		5.4
This workshop increased my understanding of how to adapt EGRAs for learners with disabilities.	51.4	40.5	2.7		5.4
After attending this workshop, I believe I have the capacity to adapt a learning assessment in my classroom or with my organization.	55.6	41.7			2.8
Adequate accommodations were provided to ensure my full participation.	64.9	29.7		2.7	2.7

Mini Enumerator Training 2
February 5

The STS team led the second mini-enumerator training with the same
enumerators from pretest 1.[11] The training reviewed best practices for EGRA
test administration and provided participants a chance to practice during
role-plays with each other. The training was targeted to only the subtasks that
would be pretested the following day (Table 8). These subtasks were chosen
for pretest 2 because they were newly developed or not part of pretest 1.

Table 8: Pretest 2 Subtasks

Assessment	Subtask Pretested	Details
EGRA for learners who are deaf or hard of hearing	RSL story comprehension (level 2)	5 questions; subtask not timed; marked for fluency; same items for P1 and P2; no autostop applied
	Sentence reading comprehension	Five sentences and corresponding questions; subtask not timed; marked for fluency; same items for P1 and P2; autostop after two items applied for P1 learners; no autostop applied for P2 learners
	RSL receptive vocabulary	5 items; subtask not timed; same items for P1 and P2; no autostop applied
	RSL expressive vocabulary	5 items; subtask not timed; same items for P1 and P2; no autostop applied

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[11] Five enumerators were trained to administer the assessment one-to-one with learners who are deaf or hard of hearing:
four deaf enumerators and two hearing enumerators, all of whom are fluent in RSL.

Pretest 2
February 6

Enumerators pretested subtasks in the same school as for pretest 1 on February 6.[12] Similar to pretest 1, because the pretest took place near the start of the academic year, P2 learners served as a proxy for P1 learners at end of year, and P3 learners served as a proxy for P2 learners at end of year. All marking was done on paper and pencil using a scoring sheet per subtask.

During pretest 2, 20 learners who are deaf or hard of hearing were assessed—eight learners on the P1 assessment and 12 learners on the P2 assessment.[13] Enumerators assessed different learners than during pretest 1, except for one learner who was tested on both days.[14] Enumerators administered subtasks in a strategic order, so that the hardest subtask was in the middle. This allowed learners to end the pretest activity on an easier subtask, which based on observations, helped reduce frustration during the assessment experience. Results from pretest 2 are detailed in Table 9.

[12]   The team explored the possibility of pretesting at an additional or different school with learners who are deaf, but this was unfeasible due to the distance to other schools with deaf learners as well as the small population of deaf learners in other nearby schools.

[13]   There was no difference between the P1 and P2 subtasks for pretest 2. This was due to several factors: there was not sufficient time to develop an RSL story comprehension (level 2) P2 subtask during the workshop, it was suspected that the P1 sentence reading comprehension would have floor effects for P1 and P2, and the receptive and expressive vocabulary subtasks had not yet been levelled into P1 and P2.

[14]   One enumerator incorrectly administered the sentence reading comprehension subtask. Those results were removed from the analysis.

Table 9: EGRA Pretest 2 Results for Learners who are Deaf or Hard of Hearing

Assessment	Subtask	N	% Correct (Incl. Zero Scores)	% Correct (Excl. Zero Scores)	% Zero Score (n)
P1 assessment	RSL story comprehension (level 2)	8	27.5	31.4	12.5 (1)
	Sentence reading comprehension	4	0.0	0.0	100.0 (4)
	RSL receptive vocabulary	8	100.0	N/A	0 (0)
	RSL expressive vocabulary	8	100.0	N/A	0 (0)
P2 assessment	RSL story comprehension (level 2)	12	61.7	74.0	16.7 (2)
	Sentence reading comprehension	12	15.0	60.0	75.0 (9)
	RSL receptive vocabulary	12	91.7	N/A	0 (0)
	RSL expressive vocabulary	12	88.3	N/A	0 (0)

The results of pretest 2 indicated the following:

- Learners in both P1 and P2 scored highly on the RSL receptive and expressive vocabulary subtasks, indicating the possibility for ceiling effects during the pilot and the need to include more difficult items in the subtasks.

- Learners in both P1 and P2 showed room for growth on the RSL story comprehension level 2 subtask, indicating a good level of difficulty for the pilot.

- Learners in both P1 and P2 had high proportions of zero scores on the sentence reading comprehension subtask, indicating a possibility for floor effects during pilot.

Key Learnings
and Recommendations

4

Key learnings from the adaptation workshop process, as well as associated recommendations, are detailed below:

- In general, workshop participants were highly skilled and contributed in-depth feedback on adaptations to the tools, based on their experiences teaching learners with disabilities. For participants with less relevant technical expertise, it was beneficial to include them in sessions that allowed them to engage in more general discussions, such as during the session on next steps for developing an EGRA for learners with intellectual disabilities.

Recommendation

- **Ensure that invitations to the workshop are targeted at those with the most technical and specific knowledge of the classroom experiences of learners with disabilities. Ensure that parameters are set so that participants with less relevant expertise can observe and engage as appropriate based on their skill set.**

- There must be sufficient time allotted (prior to and during) the workshop for braille printing. The schedule of the workshop did not allow for braille printing to always be ready at the start of activities, which meant delays in start times and participants responsible for braille printing arriving late.

Recommendation

- **Build in time before and after key workshop activities to ensure that all materials are ready and printed in braille in time for different days and different activities, recognizing that some materials cannot be prepared in advance.**
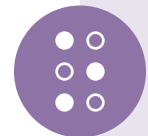
- During the workshop, some accommodations had not been considered in advance. This included braille-printed name tags, early distribution of all presentation materials to sign language interpreters, and labeling of braille text for non-braille readers.

Recommendation

- **Try to consider, in advance, all types of accommodations that would be supportive of participants, including braille name tags, braille labels, early distribution of all presentation materials to participants, etc.; hold pre-workshop meetings with OPDs to determine their recommendations for accommodations. Ensure that there are braille copies of printed materials for all participants who need them.**

- English-language proficiency differed significantly among participants and possibly hindered their understanding of some technical content. Kinyarwanda interpretation had to be provided ad-hoc during the workshop.

Recommendation

- **Make written materials available in Kinyarwanda and plan for spoken interpretation to ensure full understanding and participation.**

- Many of the participants in group 1 did not have mastery of RSL. During day 1 and part of day 2, participants defaulted to spoken language, and it was often difficult to ensure full participation of deaf individuals.

Recommendation

- **When facilitating sessions with deaf participants, establish a rule that the language of interaction is sign language. Deaf participants should lead the conversation, and all those who sign should interact in sign language. Any participants who do not sign should communicate through an interpreter. This allows deaf participants to be centered in the conversation.**

- The time required for each activity during the workshop frequently took longer than planned which meant that activities kept getting condensed into shorter and shorter timeframes. Additionally, the last Saturday of every month is a national community service day which requires citizens to participate from 8 a.m. to 11 a.m.

Recommendation

- **Consider planning for four workshop days instead of three and extending the time for each session. Avoid holding workshops on the last Saturday of the month or pre-plan for activities to start in the afternoon on this day. For sessions on weekends, consider an end time of 4 p.m., at the latest.**

- Many modifications were identified for the EGRA for learners who are deaf or hard of hearing. Additionally, participants adapting the EGRA for learners who are deaf or hard of hearing made context-based decisions about subtask design and administration protocols, such as creating two levels of the RSL story comprehension subtask.

Recommendation

- **Give options to participants adapting EGRA subtasks that allow them to make context-specific decisions about protocols and assessment design that might work best in the context. Conduct further research on how the modifications change the constructs being measured and/or the extent that they measure the intended constructs.**

- The content review protocols provided to participants were too technical in nature, making it difficult for participants to understand their specific task when reviewing content. Facilitators had to simplify the instructions during the workshop.

Recommendation

- **Review and simplify content review protocols prior to the workshop.**

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15 As listed in Table 3.

- Participants, experts, and teachers suggested additional skills to measure for learners who are deaf or hard of hearing. In many schools, English reading and instruction are provided early to learners who are deaf. The current assessment also does not include a fingerspelling subtask, which is a bridge skill between letters and word reading.

Recommendation

- **Consider developing an English-medium familiar word reading and sentence reading subtask, as well as a fingerspelling subtask for learners who are deaf or hard of hearing.**

- Deaf enumerators and enumerators who are blind performed very well during the pretest, showing mastery of the content, language, and administration protocols.

Recommendation

- **Ensure that all the enumerators for the pilot test are people with disabilities. If this is not possible, enumerators should be highly skilled in RSL and have extensive experience working with learners who are blind or have low vision.**

- The Head Teacher at the pretest school for learners who are deaf or hard of hearing advised that learners receive English reading instruction in early primary years and suggested that assessing their English reading would be beneficial.

Recommendation

- **Consider developing English-medium subtasks for learners who are deaf or hard of hearing.**

Appendices

Appendix A: Literature Review

Summary of Learnings

1. **What approaches have been used in previous learning assessment tools that enable learners with disabilities to demonstrate their literacy skills? How effective have these approaches been in assessing what learners know (as opposed to what they do not know)?**

   - REB provides accommodations for students who require modified exams and assessments, including:
     - Removing unnecessary diagrams or questions that may require drawings and illustrations
     - Providing additional time
     - Using voice recorders to tape questions and responses for those who are blind or have low vision and unable to write with a braille machine
     - Scribing for those who are unable to write (USAID Soma Umenye, 2019)

   - REB faces challenges when it comes to learning outcomes assessment of students with disabilities due to lack of capacity and knowledge to identify students with special education needs (SEN), which leads to the challenge of knowing what kind of assessment modifications are needed (USAID Soma Umenye, 2019).

   - USAID Tunoze Gusoma conducted LEGRA adaptation in 2022; final accommodations list pending (USAID Tunoze Gusoma, 2022b).

2. **What guidance does MINEDUC/NESA provide for assessing learners with disabilities?**

   - "If there is a pupil or a student with disabilities who is unable to sit for the same exams or under the same conditions with fellow pupils or students, the respective teacher shall prepare special exams for the pupil or student with disability and in special conditions" (MINEDUC, 2016, p. 31).

   - Candidates with physical or mental impairments require special consideration in the National Examinations processes (MINEDUC, 2021b).

   - "Candidates with Special Education Needs shall be supported based on the nature and level of the disability" (MINEDUC, 2021a, Article 12, p. 19).

   - "The setting of examination items and papers shall involve competent subject teachers, trainers, tutors and experts, including Special Needs Education experts" (MINEDUC, 2021b, Article 13, p. 20).

   - "A candidate with disability may be granted special accommodation depending on the type and level of disability. A candidate with a disability may be exempted from sitting for a practical examination and be allowed to sit for any other alternative practical examination. The marks obtained in the alternative to practical examinations will be substituted for practical examination on a proportionate basis" (MINEDUC, 2021b, Article 18, p. 23).

3. **What information does MINEDUC/NESA already collect around learners with disabilities' academic performance?**

   - The National Early Childhood Development Program (NECDP) is piloting two different risk screening tools for early identification of children with SEN:
     - Development Risk Screen Tool: used for children ages birth to three years, identifies children who are at risk of developmental delays
     - Washington Group Child and Youth Functioning Questions: globally accepted, used on children ages birth to seven years, assesses function and level of difficulty
       - Rwanda committed to using the Washington Group Questions (WGQ) in the 2022 census. NECDP has translated WGQ to Kinyarwanda.

- Both tools are administered by community-based professionals and volunteers (USAID Soma Umenye, 2019).

- Number of children with disabilities enrolled in primary school in 2018: 17,133 (out of total of 2,503,705) (MINEDUC, 2018)

  - % of schools with adapted infrastructure and materials for students with disabilities: 24%

  - Number of teachers trained in special needs and inclusive education: 4,102

- A Humanity & Inclusion project, Promote Inclusive Learning for Children with Disabilities in Rwanda, developed an M&E system as part of the Model Inclusive Schools component, intended to be adopted by MINEDUC and REB (USAID Soma Umenye, 2016).

- Ministry of Finance and Economic Planning research in 2005 indicated illiteracy among more than half of people with disabilities (USAID Soma Umenye, 2018a).

4. **What are the current government policies on curriculum for learners with disabilities? What is the language of instruction? Does it differ by type of school (segregated/integrated/inclusive)?**

- MINEDUC policy aims to increase participation and achievement of learners with disabilities and requires all schools to become more inclusive in approach (USAID Soma Umenye, 2018b).

- The curriculum should be modified or individualized yet consistent with the national curriculum instead of providing alternative curriculum to students with disabilities (USAID Soma Umenye, 2018b).

- "Data from a 2014 UNICEF report indicated that there at least 50 centers operating in the country (UNICEF, 2014). It is unlikely that these schools are following the national curriculum or providing quality educational services (M. Kobusingye, personal communication, August 24, 2017)" (USAID Soma Umenye, 2018b, p. 15).

- In addition, "the full curriculum needs to be accessible to every learner, rather than having lower expectations for those with impairments and disabilities" (MINEDUC, 2015, p. 23 as cited in USAID Soma Umenye, 2018b, p. 16).

  - "The practice of providing all children with disabilities access to the national curriculum has yet to be universally adapted within Rwanda. For example, students who are blind are often not taught science or chemistry. Furthermore, historically, centers for students with intellectual disabilities did not provide academic instruction and focused more on life skills. REB, UNICEF, and Handicap International are in the process of developing an alternative curriculum for children with disabilities, roughly based on the national curriculum" (USAID Soma Umenye, 2018b, p. 17).

  - "Though the CBC [Competency-Based Curriculum] states that all children should have access to the national curriculum, the CBC does not provide guidance or tips on how teachers can adapt or modify curriculum or assess the learning and literacy of children with disabilities" (USAID Soma Umenye, 2018b, p. 17).

5. **What are the government policies on reasonable accommodations for learners with disabilities?**

- The following are recommendations by USAID Soma Umenye (USAID Soma Umenye, 2018b), but it is not clear if these were actioned by the project:

  - Teachers are encouraged to provide rest breaks during assessments, split sessions, give extra time, provide enlarged print versions of the assessments, and provide exam papers in colors other than black and white.

  - The Government supports training teachers in individualization, providing readers/writers/scribes for assessments; overwriting; using devices like computers, audiotapes, braille devices, closed circuit TV; and using sign language interpreters for assessments.

Appendix B: Key Informant Interview Guide

1. What is your classroom environment?

   a. Types of disabilities: One type of disability? Different types of disabilities in one classroom? Learners with multiple disabilities?

   b. How many learners total?

   c. What grade(s) do you teach?

4. What curriculum are you using in your classrooms? Is this a government-mandated curriculum?

   a. What other teaching resources are teachers using (e.g., school-based vocabulary lists, internet-based resources, etc.)?

   b. Can you provide us copies of the curriculum or any of the teaching and learning materials you are using?

3. How do you teach your learners to read and to achieve comprehension (e.g., do you use pictures and clipart, storytelling)?

4. How do you determine the grade/level of your learners? Are there skills that your learners must have to be in a certain grade? Do you compare them with other learners to determine their grade/level? Do you provide graded assignments?

   a. Do you do any assessments or tests with your learners? If yes, what type and how do you administer them?

   b. Do you provide any accommodations or make changes to an assessment or test to make it appropriate for your learners with disabilities? If yes, what do you do?

   c. How do you promote your learners to the next grade? What are the criteria for promotion?

5. *(Teachers of learners who are deaf or hard of hearing)* Do you use RSL in your classroom? How often?

   a. How would you rate your fluency in RSL? Low, fair, good, fluent?

   b. How comfortable are you using RSL, regardless of your fluency level?

   c. How did you learn RSL? Have you received any formal training in RSL? Pre-service or in-service? At your school?

   d. Do you use RSL outside of your classroom, with family, members of the community, etc.?

   e. Do you use regional variations of RSL? Do you know of any signs you use and teach that are different than in other parts of the country?

   f. Do you use any other sign language in your classroom (e.g., signed exact English, French Sign Language, American Sign Language, invented/home signs, etc.)?

   g. Do you teach lip reading in your classroom? Total communication?

6. *(Teachers of learners who are deaf or hard of hearing)* How do you teach your children to learn RSL and to read? What types of strategies, activities, and/or games do you use (e.g., stories, pictures, handouts, videos, etc.)?

   a. Do you have any deaf adults in your school? What sort of role do they play in your classroom?

7. *(Teachers of learners who are blind or have low vision)* Do you teach your learners to read braille?

   a. How would you rate your ability to read braille? Low, fair, good, fluent?

   b. How comfortable are you reading braille, regardless of your fluency level?

   c. Have you received any formal training in how to read braille? Pre-service or in-service? At your school?

   d. What type of braille do you teach learners of different grades (uncontracted versus contracted braille)?

   e. What type of braille code do you teach learners? French, English, Kinyarwanda?

8. What types of assistive devices do you use in your classroom (e.g., magnifiers, speech to text/text to speech, typoscopes, reading stands, audio players)?

   a. Large print? If yes, what size font?

Early Grade Reading Assessment Adaptation

Results from Key Informant Interviews with Teachers

By Dr. Flora Mutezigaju

December 2, 2022

I. Introduction

As part of Early Grade Reading Assessment (EGRA) Adaptation, School-to-School International conducted interviews with teachers from special and inclusive schools to learn more about the type of instruction they provide to their learners, accommodations or assistive devices provided in the classroom, and teaching and learning materials used to teach students who are deaf or hard of hearing as well as those who are blind or have low vision.

The interviews were conducted from November 7 to 13, 2022 and involved six teachers from special and inclusive schools.

The following table indicates the schools visited and the teachers interviewed:

No.	School Name	Type of School	Teacher Name	Teacher Role
1	Nyamirambo School for the Deaf	Inclusive	Nyirabavakure Odette	P2 Kinyarwanda Teacher
2	Ubumwe Community Centre	Inclusive	Nsengiyumva Mathieu	Lower Primary Sign Language Interpreter
3	GS Rosa Mystica	Inclusive	Umurerwa Mary Cresence	Headteacher
4	HVP School for the Blind	Special school	Ingabire Justine	P2 & P3 Kinyarwanda Teacher
5	Educational Institute for the Blind	Special school	Ingabire Marie Chantal	P2 Kinyarwanda Teacher
6	GS Gahini	Inclusive	Musabyimana Jean Baptiste	Resource Room Manager

II. Insights from Key Informants: Findings from the Interviews

Transcripts of interviews and written responses provided by participants were analyzed by the consultant using reflexive thematic analysis. Themes were grouped into seven categories:

1. Classroom environment

2. Curriculum

3. Teaching and learning resources

4. Teaching methodologies for deaf and blind students

5. Assessment and tests

6. Teachers' competence in sign language and braille

7. Challenges in teaching deaf and blind students

2.1 Classroom Environment

The main objective of assessing the classroom environment was to understand the different characteristics of students accommodated in the schools visited. We wanted to understand the types of disabilities students have and whether they are accommodated in an inclusive, special, or integrated school.

Of the six schools visited, four were inclusive schools and two were special schools. The four inclusive schools accommodate students with different types of disabilities (blind or low vision, deaf or hard of hearing, physical disabilities, intellectual disabilities, and autism), while the two special schools accommodate students who are either deaf or hard of hearing, or who are blind or have low vision.

The table below shows the characteristics of students in the six schools visited:

School	Status	Total Students	Students with Disabilities	Types of Disabilities
Nyamirambo School for the Deaf	Inclusive	457	201	Deaf and Hard of Hearing
Ubumwe Community Centre	Inclusive	670	139 (15 deaf, 8 blind)	Deaf, Blind, Physical Disabilities, and Intellectual Disabilities
GS Rosa Mystica	Inclusive		89 (2 deaf, 1 blind)	Deaf, Blind, Physical Disabilities, Intellectual Disabilities, Autism
GS Gahini	Inclusive	903	15	Blind and Low Vision
HVP Rwamagana	Special	70	70	Blind and Low Vision
Educational Institute for The Blind	Special	150	150	Blind and Low Vision

This study focused on education for students who are deaf, blind, or have low vision. Generally, special schools accommodate a large number of deaf, blind, or low vision students, with the exception of Nyamirambo School for the Deaf. This could be because this school was initially a special school and later included students without disabilities (reverse inclusion). Several studies conducted in Rwanda indicate that parents prefer special schools over inclusive schools when it comes to the education of children who are deaf or blind.

Parents believe that special schools are better equipped with specialized materials than inclusive schools. They also believe that teachers in special schools are better qualified to teach children who are deaf and blind than teachers in inclusive schools (Sagahutu et al., 2014; Mutezigaju et al., 2015).

> Most students who are either deaf, blind, or have low vision are educated in special schools with limited governmental oversight.

2.2   Curriculum

The main objective was to examine whether schools are using government curriculum or have designed their own curriculum. All the schools visited use Kinyarwanda curriculum that was provided by the Rwanda Basic Education Board.

It was observed during the visit that all teachers had in their possession the print format of the curriculum. Teachers indicated that schools provided curriculum. All the curricula are available on the Rwanda Basic Education Board online platform, facilitating easy access to the curriculum.

> All the schools visited use government curriculum.

2.3. Teaching and Learning Resources

The objective was to assess the availability and utilization of teaching and learning resources. It was observed that all the schools visited had limited teaching and learning materials for deaf and blind students. Though some schools, like Nyamirambo School for the Deaf and Ubumwe Community Centre, had technologies (Smartboards and computers), teachers indicated that these technologies are used for upper primary students only (primary grades 4, 5, and 6).

Teachers of deaf students particularly expressed concern over the lack of basic materials such as Kinyarwanda Sign Language dictionaries, sign language videos, and visual cards, which would allow students to access quality education.

It was a general observation that all the schools lacked access to teaching resources. Many respondents stressed a general lack of materials and assistive devices, which was also observed during school visits. Teachers of blind students also highlighted a lack of adapted textbooks for students who are blind or have low vision, especially with descriptions of diagrams and pictures.

> It was a general observation that all the schools lacked access to teaching resources that would provide a quality learning experience for learners who are deaf or blind.

Nduwingoma (2015) notes that the education system has failed learners with special needs by not equipping them with appropriate teaching and learning materials which would allow them to exercise their rights and responsibilities as citizens. For effective teaching and learning, textbooks and resource materials should be considered basic tools; their absence or inadequacy leads to abstract teaching methods and classroom environments that are not engaging for students.

2.4. Teaching Methodologies for Deaf and Blind Students

The objective was to examine the teaching methodologies that teach learners to read and achieve comprehension. Teachers teaching deaf students noted that the task of learning to read, especially reading Kinyarwanda, is more difficult for deaf children. They indicated that they use sign language and lip reading (total communication) as a main strategy to teach children who are deaf or hard of hearing.

Very few teachers indicated that they use pictures or clipart to teach deaf students. However, the majority provide handbooks for students to read. None of the teachers indicated using storytelling to teach reading to deaf students or multimedia approaches for visual representation of lesson content. Though a few schools have access to computers and Smartboards, they have not been used to teach deaf students.

> Sign language and lip reading are the main strategies used to teach children who are deaf or hard of hearing.
>
> None indicated using storytelling to teach reading to deaf students or using multimedia approaches for visual representation of lesson content.

Classroom observations indicated a lack of an enriched language environment that promotes a wide range of meaningful experiences for deaf students to promote language.

Most teachers indicated that they use verbal strategies for learners who are blind or have low vision, as well as providing handbooks in braille format for students to read. However, none indicated using any form of technology (audio display, etc.) to teach reading to blind students.

2.5. Assessment and Tests

The objective was to find out how teachers determine students' grade levels and what kind of accommodations are provided to students during assessments and examinations.

All the teachers interviewed reported that students are promoted to the next level after successfully passing exams and tests. Regarding accommodations, teachers indicated that they provide extra time to deaf and low vision learners during exams. No other accommodations were mentioned by teachers.

As for adaptations to exams and tests, teachers of deaf students established that they do not make any adaptations to the content. Teachers noted that though tests have many items that need to be

> Tests/exams are not adapted to suit the needs of deaf or blind students.
>
> Students who are deaf, blind, or have low vision must pass exams before they are promoted to the next level.

adapted, they do not take the initiative to adapt the questions. Teachers of students who are blind or have low vision mentioned that they adapt most of the exams/tests sent by the district or National Examination and School Inspection Authority (NESA).

They noted that tests are not adapted to suit the needs of students who are blind or have low vision. All the teachers interviewed indicated that their students have experience with the Local Early Grade Reading Assessment (LEGRA).

However, the LEGRA assessment is not appropriate for students who are deaf or blind.

2.6. Teacher Competence in Sign Language and Braille

The objective was to examine teachers' competencies in braille and sign language. Teachers of deaf students were asked to rate their level of confidence in using sign language and they all indicated that their level of confidence was fair (they were not confident using sign language). This is because none of them have ever received professional training in sign language aside from a brief training organized by the schools. Some teachers even indicated that they learn sign language from their deaf students.

Observations made in the classroom during lessons revealed that teachers were struggling to use sign language. In some cases, students and teachers were obliged to invent signs for some new vocabularies.

Regarding teachers' competences in reading braille, all the teachers interviewed indicated that their level of reading braille was good. Teachers revealed that they have undergone several trainings in braille.

UNICEF (2019) noted that inadequately trained special education teachers and professionals are obstacles to implementing inclusive education.

> All teachers interviewed indicated that their level of using sign language was fair.
>
> None of the teachers has ever had professional training in sign language.
>
> Teachers indicated that their level of braille reading was good.

2.7. Challenges in Teaching Deaf and Blind Students

During the teacher interviews, the researcher further investigated the challenges teachers face in teaching students who are deaf, blind, or have low vision. The following challenges were highlighted by teachers:

- **Variations in sign language**
  Students use sign language with great variation across districts. This affects deaf students' education, particularly early grade learners. A teacher at Nyamirambo School for the Deaf revealed that they spend considerable time at the beginning of every term repeating sign language lessons. As students go on holiday, they come back with different variations of sign language.

- **Lack of Kinyarwanda Sign Language**
  Teachers revealed that not all the schools use the same sign language. For example, at Nyamirambo School for the Deaf, they use Italian Sign Language; at Ubumwe Community Centre, they use American Sign Language; and at Rosa Mystica, they use French Sign Language. Though there is no considerable difference, teachers revealed that to some extent, this affects sign language acquisition for deaf students.

- **Lack of Kinyarwanda braille code**
  The same challenge was also highlighted by teachers teaching students who are blind or have low vision. The lack of a Kinyarwanda braille code is affecting the braille literacy of these students. Some schools are using the English braille code while others are using the French braille code. This presents a challenge during national exams.

- **Inappropriate exams for students who are deaf, blind, or have low vision**
  Teachers revealed that most of the exams, especially language exams prepared by the district and NESA, are not adapted to suit the needs of deaf or blind students.

- **Insufficient teaching and learning materials, including assistive technologies**
  All teachers interviewed revealed that there are not enough teaching resources for students who are deaf, blind, or have low vision. This affects students' language acquisition.

- **Poor sign language fluency for teachers**
  It was also noted that teachers are not fluent in sign language. Most teachers learn sign language when they are posted to schools, so it was surprising to learn that some teachers learn sign language from deaf students.

2.8. Conclusion and Recommendations

Based on the interview findings, one can logically conclude that language acquisition for students who are deaf, hard of hearing, blind, or have low vision is affected by several factors. These include but are not limited to insufficient teaching and learning resources, inappropriate tests, untrained teachers, and a lack of proper harmonization in teaching braille and sign language. To improve language acquisition for students who are deaf, hard of hearing, blind, or have low vision, tests and exams should be adapted to suit their needs, teachers should be trained in sign language and braille, and they should be provided with appropriate teaching and learning resources. Guidelines regulating braille code and sign language usage in schools should also be developed.

Appendix D: Workshop Agendas

Day 1: Saturday, January 28, 2023

Day 1 Agenda

Time	Activity
12:30–13:00	**[PLENARY]** Welcome and opening statements
13:00–14:00	**[PLENARY]** Overview of EGRA and EGRAs for learners with disabilities
14:00–14:45	**[PLENARY]** USAID Tunoze Gusoma LEGRA adaptation review
14:45–15:00	**[PLENARY]** Breakout into working groups
15:00–15:15	**[GROUP 1]** Letter identification review and revision **[GROUP 2]** Letter identification review and revision **[GROUP 3]** Adapting assessments for learners with intellectual disabilities
15:15–15:30	**Tea break**
15:30–16:15	**[GROUP 1]** Letter identification review and revision (continued) **[GROUP 2]** Letter identification review and revision (continued) **[GROUP 3]** Adapting assessments for learners with intellectual disabilities (continued)
16:15–17:15	**[GROUP 1]** Familiar word reading review and revision **[GROUP 2]** Familiar word reading review and revision **[GROUP 3]** Adapting assessments for learners with intellectual disabilities (continued)
17:15–17:25	**[PLENARY]** Group presentations on letter identification and familiar word reading
17:25–17:30	**[PLENARY]** Wrap-up and planning for day 2

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Day 2: Sunday, January 29, 2023

Day 2 Agenda

Time	Activity
08:30–09:00	Arrivals and sign-in
09:00–09:10	Welcome and agenda review
09:10–10:45	**[GROUP 1]** Listening / RSL comprehension review and revision
	[GROUP 2] Oral (expressive) reading fluency and reading comprehension review and revision
10:45–11:00	**Tea break**
11:00–12:30	**[GROUP 1]** Oral (expressive) reading fluency and reading comprehension review and revision
11:00–12:00	**[GROUP 2]** Syllable sound identification review and revision
12:00–12:30	**[GROUP 2]** Listening comprehension review and revision
12:30–13:30	**Lunch break**
13:30–14:00	**[GROUP 1]** Review and revision of listening / RSL comprehension, expressive reading fluency and reading comprehension
	[GROUP 2] Listening comprehension review and revision (continued)
14:00–14:45	**[PLENARY]** Group presentations on listening / RSL comprehension, oral (expressive) reading fluency and reading comprehension, and syllable sound identification
14:45–15:15	**[PLENARY]** Review of assessment accommodations and protocols
15:15–15:30	**Tea break**
15:30–16:30	**[GROUP 1]** Review of RSL vocabulary items and clipart
	[GROUP 2] Finalization of accommodations and protocols
16:30–17:00	Closing session

Day 3: Monday, Jan 30, 2023

Day 3 Agenda for Group 1: EGRA for Learners who are Deaf or Hard of Hearing

Time	Activity	Description
10:45–11:00	Arrivals and sign-in	• Participants sign-in
11:00–11:15	Welcome and overview	• Review of agenda
11:15–12:30	Familiar word reading	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
12:30–13:30	**Lunch break**	
13:30–14:45	Letter identification	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
14:45–15:15	RSL story comprehension	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
15:15–15:30	**Tea break**	
15:30–16:15	RSL story comprehension	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
16:15–16:40	Practice	• Practice administering all subtasks
16:40–17:00	Logistics and wrap-up	• Discuss pretest logistics • Parking lot questions

Day 3: Monday, Jan 30, 2023

Day 3 Agenda for Group 2: EGRA for Learners who are Blind or have Low Vision

Time	Activity	Description
10:45–11:00	Arrivals and sign-in	• Participants sign-in
11:00–11:15	Welcome and overview	• Review of agenda
11:15–12:30	Familiar word reading	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
12:30–13:30	**Lunch break**	
13:30–14:45	Syllable sound identification	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
14:45–15:15	Oral (expressive) reading fluency and reading comprehension	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
15:15–15:30	**Tea break**	
15:30–16:15	Oral (expressive) reading fluency and reading comprehension	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
16:15–16:40	Practice	• Practice administering all subtasks
16:40–17:00	Logistics and wrap-up	• Discuss pretest logistics • Parking lot questions

Day 4: Tuesday, January 31, 2023

Day 4 Agenda for Group 1: EGRA for Learners who are Deaf or Hard of Hearing

Time	Activity	Description
08:00	Group 1 departure	• Participants depart Lemigo Hotel for GS Institut Filippo Smaldone
09:25–13:30	Pretesting	• Pretesting with P1, P2 learners
13:30–15:30	Group 1 and 2 return	• Return trip to Lemigo Hotel

Day 4 Agenda for Group 2: EGRA for Learners who are Blind or have Low Vision

Time	Activity	Description
08:00	Group 2 departure	• Participants depart Lemigo Hotel for GS HVP Gatagara-Rwamagana
09:25–13:30	Pretesting	• Pretesting with P1, P2, P3 learners
13:30–15:30	Group 1 and 2 return	• Return trip to Lemigo Hotel

Day 5: Saturday, February 4, 2023

Day 5 Agenda for Group 1: EGRA for Learners who are Deaf or Hard of Hearing

Time	Activity
08:30–09:00	Arrivals and sign-in
09:00–09:10	[PLENARY] Welcome and review of day 3
09:10–10:45	[PLENARY] Presentation(s) on pretest findings, enumerator debrief
10:45–11:00	**Tea break**
11:00–12:30	Debrief on pretest
11:30–12:30	[GROUP A] Review and revise familiar word reading subtask, instructions, assent [GROUP B] Review and revise RSL story comprehension (P1 and P2, levels 1 and 2), instructions [GROUP C] Review and revise expressive reading passage and comprehension (P1 and P2), instructions
12:30–13:30	**Lunch break**
13:30–14:00	[GROUP A] Create RSL receptive and expressive items for pretest [GROUP B] Review and revise RSL story comprehension (P1 and P2, levels 1 and 2), instructions [GROUP C] Review and revise expressive reading passage and comprehension (P1 and P2), instructions
14:30–15:15	Presentation on group work
15:15–15:30	**Tea break**
15:30–16:30	Assessment protocols review and decision-making
16:30–17:00	Closing ceremony

Day 5: Saturday, February 4, 2023

Day 5 Agenda for Group 2: EGRA for Learners who are Deaf or Hard of Hearing

Time	Activity
08:30-09:00	Arrivals and sign-in
09:00-09:10	[PLENARY] Welcome and review of day 3
09:10-10:45	[PLENARY] Presentation(s) on pretest findings, enumerator debrief
10:45-11:00	Tea break
11:00-12:30	• Discuss item-level results from pretest • Determine what changes (if any) need to be made to content • Draft revised content (as needed)
12:30-13:30	Lunch break
13:30-14:30	Review lessons learned from pretest to create list of key decision points for piloting
14:30-15:15	Provide recommendations or notes for each key decision point, as applicable
15:15-15:30	Tea break
15:30-16:30	Assessment protocols review and decision-making
16:30-17:00	Closing ceremony

Day 6: Sunday, February 5, 2023

Day 6 Agenda for Group 1: EGRA for Learners who are Deaf or Hard of Hearing

Time	Activity	Description
10:45–11:00	Arrivals and sign-in	• Participants sign-in
11:00–11:15	Welcome and overview	• Review of agenda
11:15–12:15	Receptive vocabulary	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
12:30–13:15	**Lunch break**	
13:15–14:15	Expressive vocabulary	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
14:15–15:45	RSL story comprehension (level 2)	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
15:45–17:00	Sentence reading comprehension	• Review of subtask purpose • Review of administration protocols, items, and scoring • Practice administering the assessment in small groups
17:00–17:15	Logistics and wrap-up	• Discuss pretest logistics • Parking lot questions

Day 7: Monday, February 6, 2023

Day 7 Agenda for Group 1: EGRA for Learners who are Deaf or Hard of Hearing

Time	Activity	Description
08:00	Group 1 departure	• Participants depart Lemigo Hotel for GS Institut Filippo Smaldone
09:25–13:30	Pretesting	• Pretesting with P1, P2 learners
13:30–15:30	Group 1 returns	• Return trip to Lemigo Hotel

Appendix E: Summary of Key Outcomes and Next Steps for Assessing Learners with Intellectual Disabilities

Below is a summary of the day 1, group 3 process discussion about what is needed to develop an EGRA for learners with intellectual disabilities. A recommended follow-up activity is to create an action plan that consolidates and prioritizes the documented next steps and designates responsible parties.

Objectives of session	• Improved understanding of the current state of teaching learners with intellectual disabilities in Rwanda • Identify types of assessments that serve to measure the reading capabilities of learners with intellectual disabilities • Create a process list of next steps to adapt an assessment for learners with intellectual disabilities
Defining intellectual disability	Participants discussed their understanding of intellectual disability and agreed that areas affected by intellectual disabilities include both intellectual and adaptive functioning (Centers for Disease Control, 2022; FAQS, 2023; Schaepper et al., 2021). Examples provided during the discussion include the following: • **Intellectual functioning:** Learning challenges, Down syndrome, there can be multiple intelligences and different ways of thinking/processing/understanding • **Adaptive functioning:** Social, independent living, language, behavior, emotional/expression
Learning environment for learners with intellectual disabilities	• **Setting:** Public schools and private/special schools; special or inclusive schools; learners with disabilities are either in special or inclusive schools • **Assistive technologies:** iPads, pictures, smart boards (used in special schools); no technologies are used in public schools • **Accommodations:** Provided in some special schools (for example, extended time); there are teacher training gaps to address special education needs in public schools • **Curriculum:** Curriculum from REB is adapted and delivered at a slower pace in special and inclusive schools, but not in mainstream schools; there are adaptations in the content (i.e., some content is taken out) based on ability of learners; teachers assess every learner and try to adapt the curriculum to the abilities of the learner • **Question for follow-up:** Content is modified depending on the level of the student. Is there a threshold of knowledge that would be required to have them take an EGRA?
Assessments for learners with intellectual disabilities	• Existing assessments include LARS, LEGRA, and EGRA. These are not adapted for learners with intellectual disabilities • Every teacher prepares classroom assessments • The standard EGRA is used in mainstream schools and often that helps to identify children with disabilities

Strengths: **What aspects of the current state are strong? What is going well?**	• Teachers are making accommodations and modifications • Strong engagement from government, development organizations, and teachers • Teachers are using assistive technologies • Teachers are being trained • An inclusive education policy exists • Increased awareness on needs of children with disabilities • REB has recently hired an intellectual disabilities officer, a Sign Language Officer, and a Braille Officer
Weaknesses: **What aspects of the current state could be improved?**	Need to: • Adapt assessments for different types of disabilities • Have a database to know where the children are located (are they in special schools?) and identify their specific disability • Create full accommodations for learners across the entire curriculum • Standardize assessment practices • Establish benchmarks • Increase teacher competencies • Address access gaps related to insufficient special / inclusive schools in rural areas (there are few special and inclusive schools in rural areas)
What information is needed to create a reading assessment for learners with intellectual disabilities?	Need to: • Train teachers on identification of learners with intellectual disabilities • Review existing GoR policies on assessment • Learn from others' experiences • Contextualize the success and challenges from other countries • Identify the number of learners with intellectual disabilities across the country • Create an Individualized Education Plan (IEP) for each learner with intellectual disabilities • Seek guidance from medical experts • Also consider needs of upper grade learners (not only early grades) • Define intellectual disability categories/ranges (autism, cerebral palsy, epilepsy, Down's syndrome, etc.) and then identify accommodations and modifications • Research best practices in the region
What do we need to do next to create a reading assessment for learners with intellectual disabilities?	Need to: • Address suggestions listed above • Adapt the test and pilot it • Develop adapted individual assessment tool (pre- and post-test) • Develop an IEP for every learner • Have different reading assessments for each reading level • Train NESA staff who oversee the preparation exam and teachers • Identify challenges faced by learners with intellectual disability • Organize workshop to familiarize key stakeholders (ministry, teachers, etc.) with existing tools • Brainstorm on how to address each gap

Appendix F: Protocol Recommendations for Learners who are Blind or Have Low Vision

Observation / Decision Point	Recommendation from Workshop Participants
Should the enumerator sit next to the learner instead of across from the learner?	The assessor and the students should sit side by side as it is more important that the student can hear the enumerator rather than see. If you are administering to a student with low vision and they are reading large print, then the enumerator should sit across. They only need to sit next to students who are blind to help with the positioning of the paper.
How should it be determined whether low vision students get large print or braille stimuli?	We need to find out what the teachers are allowing the student to use within the classroom (glasses, large print, magnifying glasses etc.) and assess them using the same instruments. However, the expectation should be that students that have low vision should be learning braille.
Should students be allowed to read the passage silently first?	Allow the child 1 minute out of the 2 minutes time allowed for this subtask to read the entire passage silently prior to reading aloud. This would allow students to understand the full story, gather the intonation of the story, and comprehend the story prior to reading aloud.
Should braille stimuli be in landscape or portrait format?	Braille stimuli should be printed in portrait format.
Should braille stimuli be put into a binder instead of stapled?	It is preferable to place the enumerator instructions into a binder for easier transition to the next page. This would mean ensuring that the braille is shifted further to the right of the page so there is sufficient room for holes and the braille is not obstructed.

Subtask	Protocol	Recommendation from Workshop Participants
Letter identification	Number of items	100
	Timing	2 minutes
	Pause rule	6 seconds
	Autostop	First 10 items
Familiar word reading	Number of items	50
	Timing	2.5 minutes for P1, 2 minutes P2
	Pause rule	7 seconds
	Autostop	First 5 items
Oral (expressive) reading fluency	Timing	3 minutes
	Pause rule	6 seconds
	Autostop	First sentence
Reading comprehension	Number of items	5
	Pause rule	10 seconds
	Repeat rule (questions)	One repeat allowed
	Language of response	Kinyarwanda only
	Lookbacks allowed	Yes
Listening comprehension	Number of items	5
	Pause rule	10 seconds
	Repeat rule (story)	Read story twice
	Repeat rule (questions)	One repeat allowed
Syllable sound identification	Number of items	100
	Timing	2 minutes
	Pause rule	6 seconds
	Autostop	First 10 items

Appendix G: Workshop Evaluation Participant Comments

Workshop Participant Comments
The workshop was worth it.
Time should be increased to further discuss better accommodations, and greater participatory group discussions. The recommendations/ comments should be put together and presented to all groups, including the VIP/braille focus group and VIP / sign language recommendations, to extend general knowledge to all participants and boost inclusion in institutions.
Was Incredible.
Very good and informative workshop.
I got more information about why to adapt EGRA to make it inclusive.
Thank you for this workshop, I am ready to work with you in this program of EGRA.
This workshop came in due time… EGRA for Learners with disability was a real gap in Education in Rwanda.
Thank you for inviting me.
Workshop was good, but the time was short (that is, short period of time for the workshop).
It is better to more workshop for someone EGRA
Very well done, thank you!
Quick implementation of good ideas.
I would recommend an additional invitation [workshop] because it was not enough time to learn all about EGRA. Thanks!
There was not enough time for the content. It would be better if you organized another training for us and the teachers who teach these learners who are deaf, blind, or have low vision.
In future workshops there should be a lot of translations, especially for interpreting Kinyarwanda, but almost everything was good.
[Facilitators] should coordinate a follow-up to ensure what has been learned in the workshop is actually being practiced.
The workshop was very helpful and we wish all stakeholders to take this into consideration.
We want to increase our knowledge but need more time to learn and use it properly.
Let's keep thinking of what we can do for the deaf and blind.

Workshop Participant Comments

Next time there should be Kinyarwanda interpreters to make it easier for Kinyarwanda speakers that are not good in English.

During group work it is vital to remind participants to stick to the instructions and follow the time given to avoid addition of ideas not related to the topic being discussed. It should be short, easy, understandable, and emphasized. Sometimes it is necessary to remind group participants of the instructions when they're starting to stray from the topic. Thank you very much!

The workshop was well organized and properly executed. The challenge is that the curriculum of Kinyarwanda doesn't match Deaf culture.

There were not enough teaching resources in braille, which meant that they had to be shared. For future training, each blind participant should have a copy to make participation easy. When there are participants who are deaf the presenter should speak slowly to allow the sign language interpreters to capture all the information. Otherwise, the training was good and teachers gained information on how to adapt EGRA for their learners, thank you.

My suggestion is to make Braille copies for each blind person during the workshop. Thanks.

Next workshop think about how we use EGRA for learners with Intellectual disabilities.

To improve the teachers in different schools for helping the learners with disabilities. Thank you.

Learners with intellectual challenges have to be catered to in EGRAs.

It would be better to have braille copies for all participants who are blind or have low vision. On the other hand, I congratulate the organizers of this workshop for helping blind and low vision participants follow the different presentations, and the environment was accessible.

I suggest that we should have many more trainings for teachers about EGRA. Thanks.

It would be good to visit many schools because they have different challenges. For example, the braille used by Kibeho's teachers is totally different from GS Gahini, making EGRA difficult for some learners.

Note. Comments were edited to adjust for grammar and clarity.

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