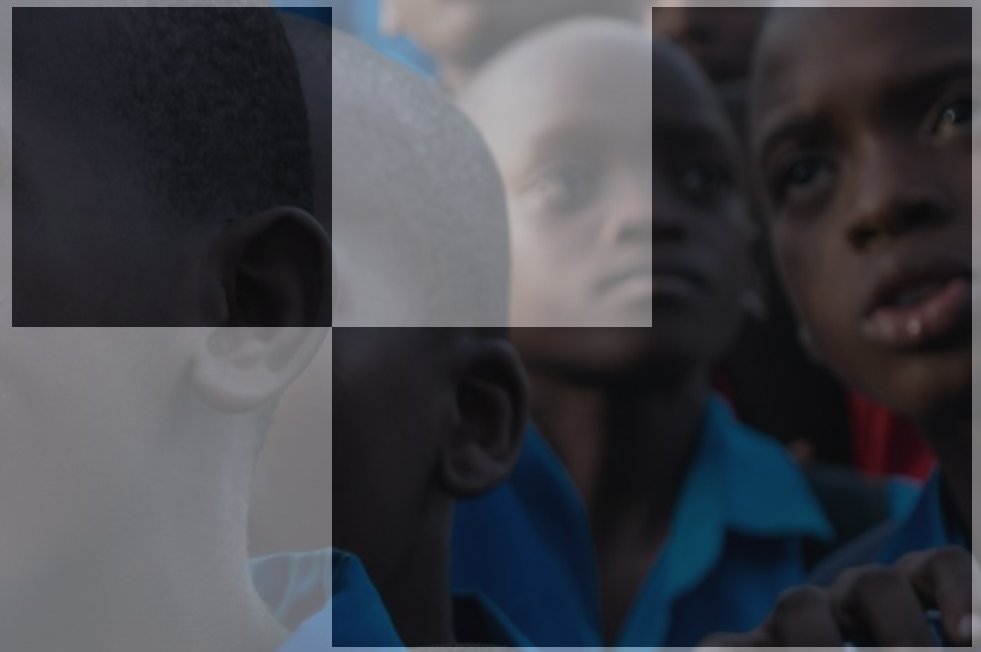
Endline Evaluation Report for Year 3 Rollout of the Digital StoryTime Intervention



November 2025

Busara

eKitabu

Acronyms

- DHH: Deaf and hard-of-hearing
- EYE: Early Years Education
- DST: Digital StoryTime
- KSL: Kenyan Sign Language
- KOL: Kentalis Observation Tool
- PP1: Pre-primary 1
- PP2: Pre-primary 2

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Executive Summary

This report presents findings from the Year 3 rollout of eKitabu's Digital StoryTime (DST) initiative in Kenya, which aims to enhance inclusive Early Years Education (EYE) for deaf and hard-of-hearing learners. The evaluation focuses on the impact of DST videos and the deployment of deaf DST teachers on learner outcomes. It also explores teachers' experiences with DST materials and the Kentalis Observation Tool (KOL) in assessing learner outcomes.

Key Findings: Learner Outcomes

- **Significant Learning Progress:** Learners across all grades (PP1–Grade 2) demonstrated significant improvements in learning outcomes between baseline and endline assessments. Overall, 67% of learners achieved at least the minimum learning gain of 0.1.
- **Classroom Engagement:** Teachers observe that learners are more excited, attentive, and active during DST sessions compared to regular lessons. The visual nature of the videos helps students grasp concepts faster, retain vocabulary better, and demonstrate increased motivation to participate.
- **Learning Gaps:** Learners with deaf family members consistently show higher learning gains than their peers. Conversely, learners with co-occuring disabilities (such as Cerebral Palsy, Autism, or ADHD) show comparatively lower improvements, highlighting the need for specialized support for children with multiple learning needs.

Key Findings: Teacher Insights

- 85% of teachers report using DST videos during lessons, with many integrating them into weekly routines. Teachers find the videos clear, relevant, and engaging but suggested slowing the signing pace for learners in lower grades i.e., PP1 and PP2.
- The deployment of deaf DST teachers is highly effective; 11 out of 12 reported connecting with students to a "Great Extent". Regular teachers view them as positive role models who significantly improve learner confidence, signing skills, and the overall sign language environment in schools.
- There is strong uptake of the KOL tool, with 90% of teachers trained and using it to assess learners. While most teachers feel well-prepared and confident after the training, they note challenges such as the time-consuming nature of the assessments and difficulties in assessing learners with multiple disabilities.

Introduction

- Study Background
- Methodology Design
- Objectives of the Study
- Study Sample

Introduction | Project Background

Context

eKitabu is working to scale Early Year Education (EYE) in Kenya by creating sign language–rich learning environments for deaf and hard-of-hearing learners (DHH). Through its Digital StoryTime (DST) initiative, eKitabu provides accessible learning materials including storybooks narrated in Kenyan Sign Language (KSL) with closed captions to strengthen children's communication, comprehension, and early literacy.

This report presents findings from the DST Year 3 rollout in Kenya. Busara partnered with eKitabu to evaluate how DST affects learner outcomes between baseline and endline, and how it strengthens teachers' ability to support deaf and hard-of-hearing children.

How eKitabu Supports Inclusive Learning

As part of the broader DST initiative, eKitabu works with schools and teachers to improve the learning environment through:

- Hiring a deaf teacher in select schools to model natural KSL use and support learners.
- Training teachers on Universal Design for Learning (UDL) principles, content use, and play-based teaching.
- Training teachers to use the Kentalis Observation List (KOL) to assess learners and track progress.
- Providing video story books narrated in KSL

Introduction | About DST Videos

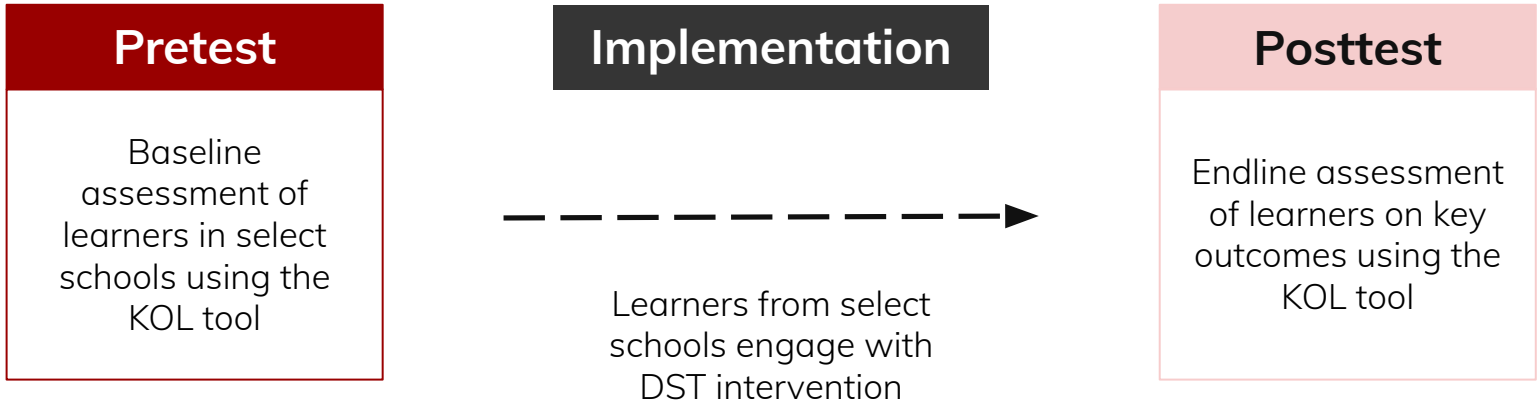
- DST builds on eKitabu's inclusive learning approach by providing *structured, classroom-ready digital content* tailored for deaf and hard-of-hearing learners.
- It uses video-based storytelling in KSL, supported by closed captions and visual cues that help learners strengthen comprehension and vocabulary. Each episode integrates guided questions and short learning activities, making the content usable both in class and during remote learning.
- DST ensures that even learners unfamiliar with sign language can benefit from the content by providing them with visual aids and clear story narrations in English.
- Currently, the episodes are aired on Kenyan TV, and are also available on Youtube and eKitabu's website. In many schools, learners primarily watch the content through epubs.

The ultimate goal of this initiative is to support remote learning and serve as a valuable resource for enhancing teacher capacity in inclusive education.

Fig1: Learners Engaging with DST content at Kerugoya School for the Deaf

Study Design | One Group Pretest-Posttest Design

- We used a one-group pretest-posttest design in which we compare outcomes measured before and after the intervention within the same group.
- We selected this design because all schools in the third year of DST rollout received the intervention, leaving no control group for direct comparison. This approach allows us to assess changes in learner outcomes over time and evaluate the significance of the observed differences.



Limitation: Establishing Causality

A limitation of the study design is that, without a control group, we cannot definitively attribute changes in outcomes to the DST intervention, limiting our ability to make causal inferences.

Study Design | KOL Outcome Measures

- KOL[1] is an assessment tool used to track the learning progress of deaf and hard-of-hearing learners. Teachers from sampled schools were trained to use the KOL to collect structured observation data on the following outcome[2] areas which also encompass learners' progression in language acquisition and development of early literacy skills. KOL measures the following outcomes:

1. Communicative Conditions

Assess a learner's ability to express needs and emotions during interactions—such as signaling displeasure by stamping their feet or pushing away when something is unwanted.

2. Understanding

Measures the receptive skills and the comprehension of KSL in phrases and sentences—for example, observing if a learner looks up when someone employs attention-getting cues like waving or tapping.

3. Production

Evaluates expressive skills by examining how effectively learners use KSL to communicate, with assessments including the number of signs produced to represent people, objects, actions, or immediate surroundings

- For this evaluation, **only learners in PP1, PP2, Grade 1, and Grade 2 were assessed using the KOL tool**, and the learning gains[3] presented in this report reflect outcomes for these grades.

1. Detailed Kentalis Observation List (KOL)
2. Across all outcome areas, learners were assessed on a 4-point scale: 1 = Below expectation, 2 = Approaching expectation, 3 = Meeting expectation, 4 = Exceeding expectation.
3. Learning gains are the average difference in learners' KOL scores between baseline and endline of the evaluated indicators. eKitabu with guidance from Kentalis, have set a minimum learning gain of 0.1 and target learning gain of 0.3 for learners exposed to DST content. (Check Appendix A)

Study Objective

1. To measure the potential impact of the bundled DST intervention— including deploying DST teachers, teacher training, KOL use, and DST video exposure— on learning outcomes of deaf and hard-of-hearing students.

2. To understand teachers' experiences interacting with DST videos as well as administering the KOL tool. These insights will enrich the evaluation findings, contextualize them and offer feedback to refine the interventions and KOL assessment tool.

Snapshot of the Student Sample Across all Grades

49% Girls

51% Boys

Learners that have DHH family members at home

90% Do not have other deaf family members

10% Have other deaf family members

Across the sample, learners joined school at an average age of 7 years

Grade	Sample size
PP 1	211
PP2	259
Grade 1	290
Grade 2	279
Total*	**1039**

** Note: The number of learners reported above includes only those who were evaluated at both baseline and endline.*

Learners with co-occuring disabilities

22% Have other disabilities

78% No other disabilities

Level of hearing

94% Deaf

6% Hard of hearing

Snapshot of the Teacher Sample

Sample size:

A total of 66 teachers completed the survey, of whom 53 were class teachers

80%

Female

20%

Male

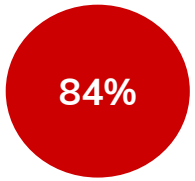
Teaching designations

Teachers

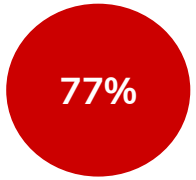
Deaf DST Teachers

Deputy Headteacher

Grades Taught	Sample size
PP 1	17
PP2	18
Grade 1	18
Grade 2	18
Multiple grades	5



Have used DST videos for lessons delivery



Have received training on KOL tool

8 of the deaf **DST teachers** were female, while **4** were male.

DST Impact on Learner Outcomes

- **Grade Level Findings**

Digital StoryTime

Grade-Level Sample Overview | PP1

Distribution by Gender:

56%

Female

44%

Male

Hearing Loss Level:

96%

Deaf

4%

Hard of hearing

Do you have a deaf family member?	Count
Yes	23
No	188

201 learners were reported to have other disabilities e.g Cerebral Palsy, ADHD or Autism

7

Average age of PP1 learners

PP1 at a Glance

In PP1, a total of **211 learners** were assessed using the KOL tool at either baseline and endline.

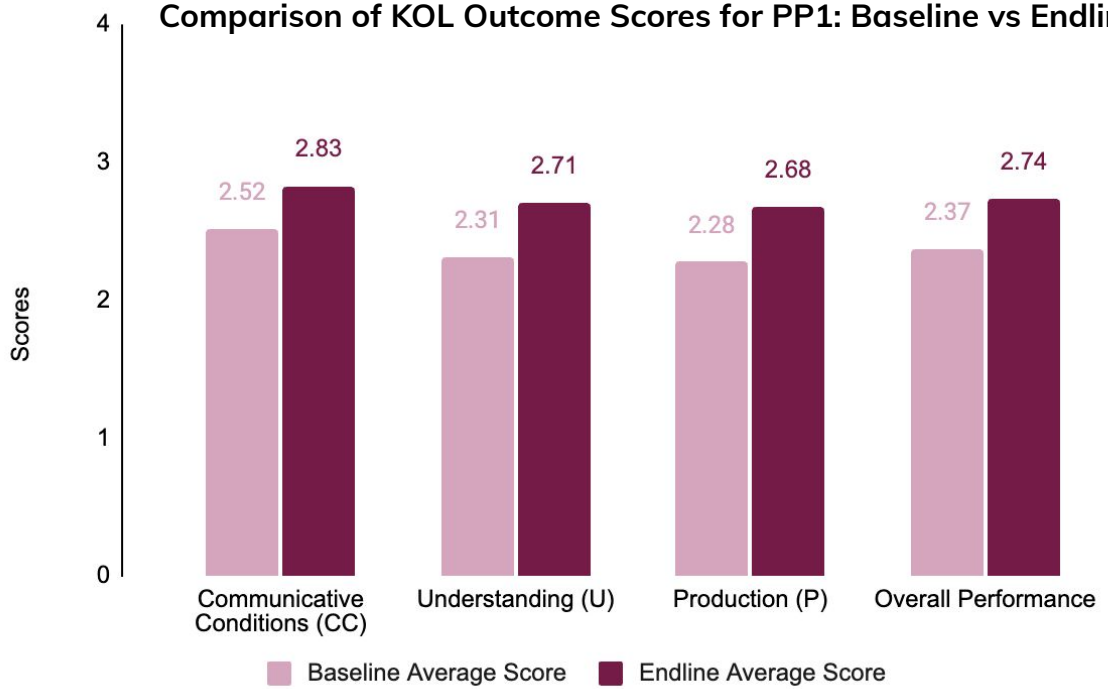
- **Gender Distribution:** The majority of PP1 learners are **female - 56%** (119 learners), while **male learners make up 44%** (92 learners) of the sample.
- **Hearing Status:** The vast majority of PP1 learners are **deaf - 96%** (203 learners) while only **4%** (8 learners) are classified as hard of hearing.
- **Family Background:** Only a small proportion of PP1 learners (**about 11%**) reported having a deaf family member at home. This suggests that early exposure to sign language outside school may be limited for many children.
- **Age Profile:** The **average age** of a PP1 learner is approximately **7 years**

PP1

Consistent learning gains were recorded among PP1 learners, with the strongest improvements in two outcomes; Understanding and Production skills.

- PP1 learners showed improvements across all three assessed indicators.
  - Communicative Conditions increased by 0.31 points
  - **Understanding skills increased by 0.40 points**
  - **Production skills increased by 0.40 points**
  - Overall learning gain achieved: 0.37 points
- A sizeable share of learners recorded measurable progress: 60% achieved at least the minimal gain of 0.1, and 47% met or exceeded the target gain of 0.3 set by eKitabu.
- A paired t-test on overall learner performance confirms that the improvement from baseline to endline was statistically significant ($p < 0.001$), indicating a clear upward shift in PP1 learners' assessed skills over the evaluation period.

Comparison of KOL Outcome Scores for PP1: Baseline vs Endline.



Predictor	Association
Having no other disability	Positively associated with overall scores
Having a deaf family member	Positively associated with overall scores

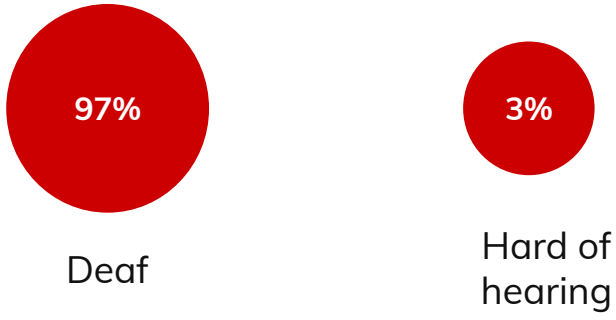
Grade-Level Sample Overview | PP2

Distribution by Gender:

53% Female

47% Male

Hearing Loss Level:

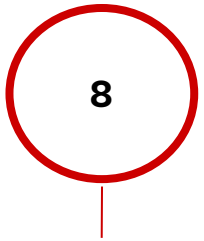


Deaf

Hard of hearing

Do you have a deaf family member?	Count
Yes	31
No	228

249 learners were reported to have other disabilities e.g Cerebral Palsy, ADHD or Autism



Average age of PP2 learners

PP2 at a Glance

In PP2, a total of 259 learners were assessed using the KOL at both baseline and endline.

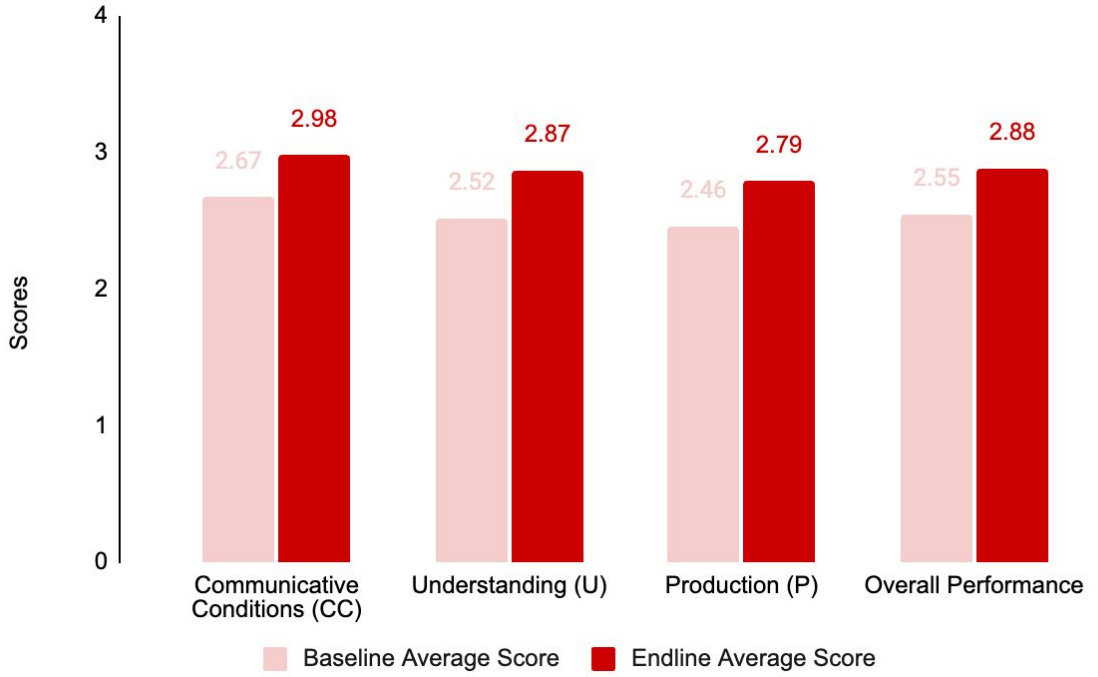
- **Gender Distribution**: **53%** are male (137 learners) and **47%** are female (122 learners).
- **Hearing Status**: The majority **(97%)** of PP2 learners are classified as **deaf** (250 learners), with only **3%** identified as **hard of hearing**.
- **Family Background**: Only **12% (31 learners)** have a deaf family member at home. The remaining **88% (228 learners)** do not.
- **Age Profile**: The **average age** of a PP2 learner is **8 years**.

PP2

PP2 learners show significant learning gains across all assessed indicators, with the greatest improvements in understanding

- PP2 learners showed improvements across all three assessed indicators between baseline and endline.
  - Communicative Conditions increased by 0.31 points
  - **Understandings skills increased by 0.35 points**
  - Production skills increased by 0.33 points
  - Overall learning gain of 0.33 points
- A large share of learners achieved measurable progress: 71% reached at least the minimal learning gain of 0.1, and 56% met or exceeded the target gain of 0.3.
- A paired t-test on overall learner performance confirms that the improvement from baseline to endline was statistically significant ($p < 0.001$), indicating a clear upward shift in PP2 learners' assessed skills.

Comparison of KOL Outcome Scores for PP2: Baseline vs Endline.



Predictor	Association
Student gender	Female learners perform better than male counterparts
Having a deaf family member	Positively associated with overall scores

Grade-Level Sample Overview | Grade 1

Distribution by Gender:

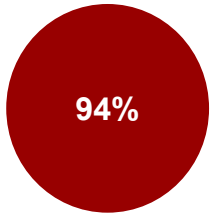
49%

Female

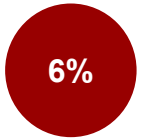
51%

Male

Hearing Loss Level:



Deaf



Hard of hearing

Do you have a deaf family member?	Count
Yes	32
No	258

218 learners were reported to have other disabilities e.g Cerebral Palsy, ADHD or Autism

Average age of Grade 1 learners

Grade 1 at a Glance

Grade 1 had one of the highest number of learners participation rates, with 290 learners assessed at both baseline and endline.

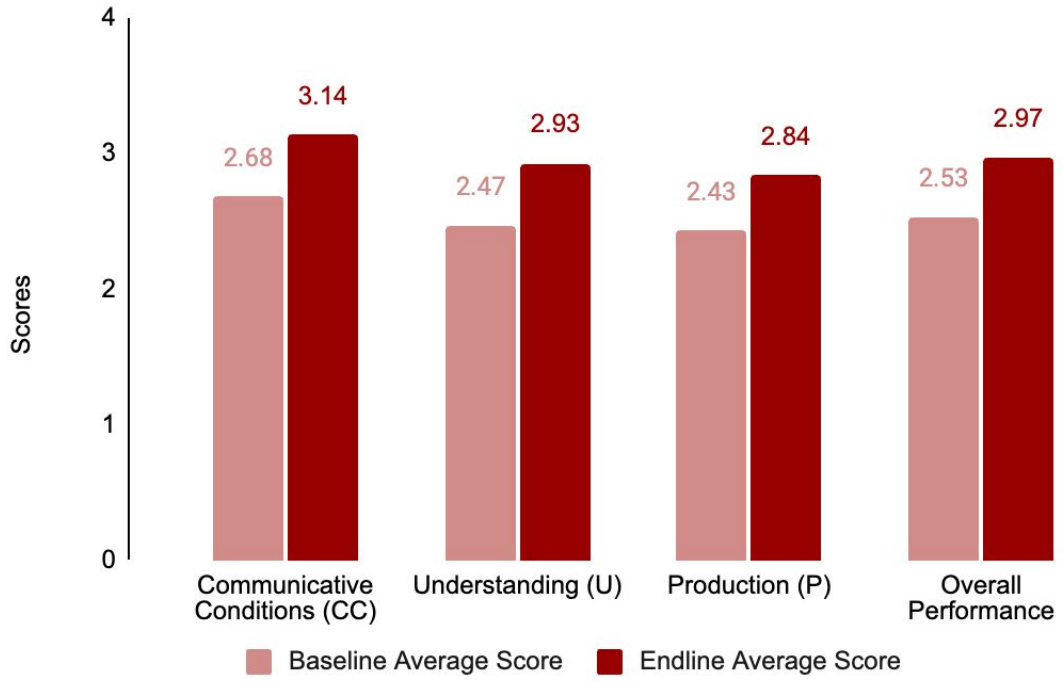
- **Gender Distribution**: **Boys make up 51% (147 learners)**, while **girls account for 49% (143 learners)**.
- **Hearing Status**: The **majority (94%)** of the learners were classified as **deaf**, with only **6% identified as hard of hearing**.
- **Family Background**: A notable trend observed was that **89% of learners did not have a deaf family** member, while only **11% (32 learners)** have a deaf family member.
- **Age Profile**: The average age of a Grade 1 learner was approximately **9.6 years.**

G1

Grade 1 learners achieve significant learning gains, especially in communicative conditions and understanding

- Grade 1 learners similarly showed a positive trend across all assessed indicators.
    - **Communicative Conditions increased by 0.46 points**
    - **Understanding Skills - 0.46 points**
    - Production - 0.41 points
    - Overall learning gains achieved - 0.44 points.
- 73% of learners in this grade achieved at least the minimum learning gain of 0.1, while 55% reached or exceeded the target learning gain of 0.3.
- A paired t-test on overall learner performance confirms that the improvement from baseline to endline was statistically significant ($p < 0.001$), reflecting a clear upward trend in Grade 1 learners' assessed skills.

Comparison of KOL Outcome Scores for Grade 1: Baseline vs Endline.



Predictor	Association
Having a deaf family member	Positively associated with overall scores

Grade-Level Sample Overview | Grade 2

Distribution by Gender:

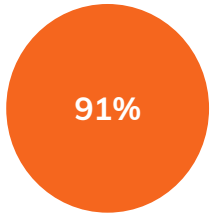
43%

Female

57%

Male

Hearing Loss Level:

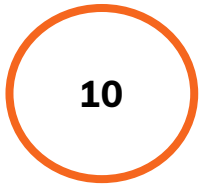


Deaf

Hard of hearing

Do you have a deaf family member?	Count
Yes	16
No	263

219 learners were reported to have other disabilities e.g Cerebral Palsy, ADHD or Autism



Average age of Grade 2 learners

Grade 2 at a Glance

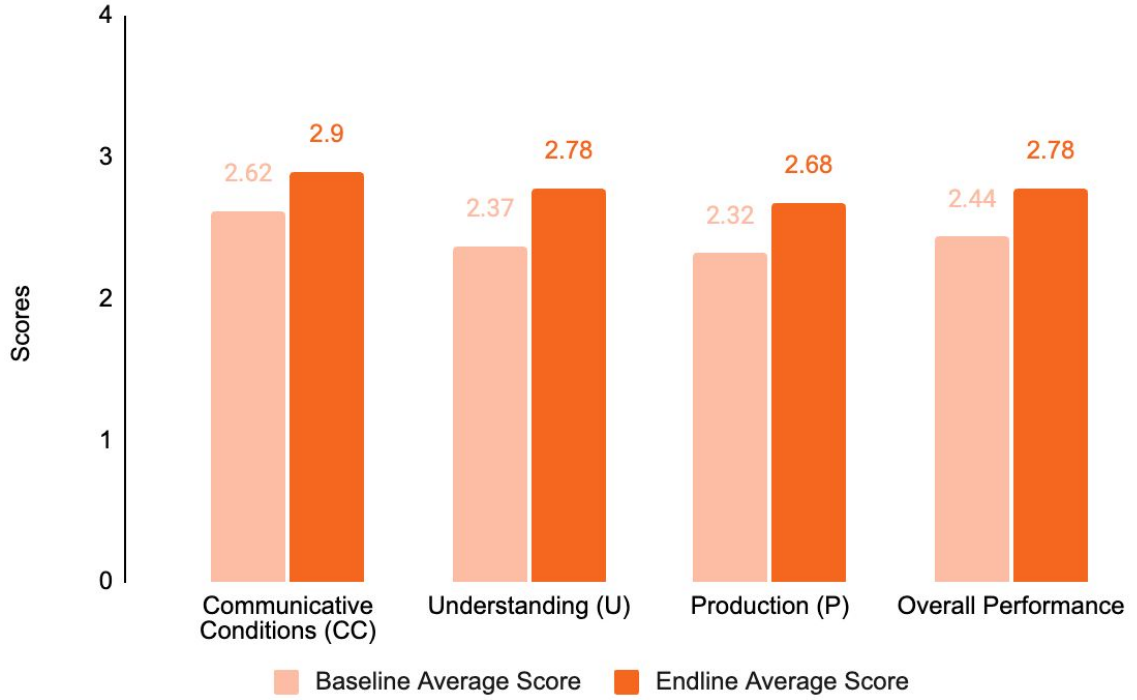
- **Total Reach:** Grade 2 had a total of 279 learners assessed at both baseline and endline.
- **Gender Distribution:** Male learners make up 57% (160 learners), while female learners account for 43% (143 learners).
- **Hearing Status:** The majority (91%) of Grade 2 learners were classified as deaf, with 9% identified as hard of hearing.
- **Family Background:** A notable trend was that 94% of learners did not have a deaf family member, which may have limited their early exposure to sign language.
- **Age Profile:** The average age of a Grade 2 learner was 10 years.

G2

Learners in grade 2 achieve significant learning gains, with strong gains in understanding and production skills

- Grade 2 learners recorded steady improvements across all assessed domains between baseline and endline.
  - Communicative Conditions increased by 0.28 points
  - **Understanding skills 0.41 points**
  - **Production skills improved by 0.36 points**
  - Overall performance rose from 2.44 to 2.78, reflecting an average learning gain of 0.35 points.
- A substantial share of learners demonstrated progress: 66% met the minimal gain threshold (0.1), and 52% achieved or surpassed the target gain (0.3). A paired t-test confirms a statistically significant improvement from baseline to endline ($p < 0.001$).
- Performance patterns also show that learners who were *only* deaf or hard of hearing tended to perform better than those with additional disabilities such as Cerebral Palsy, ADHD, or Autism.

Comparison of KOL Outcome Scores for Grade 2: Baseline vs Endline.

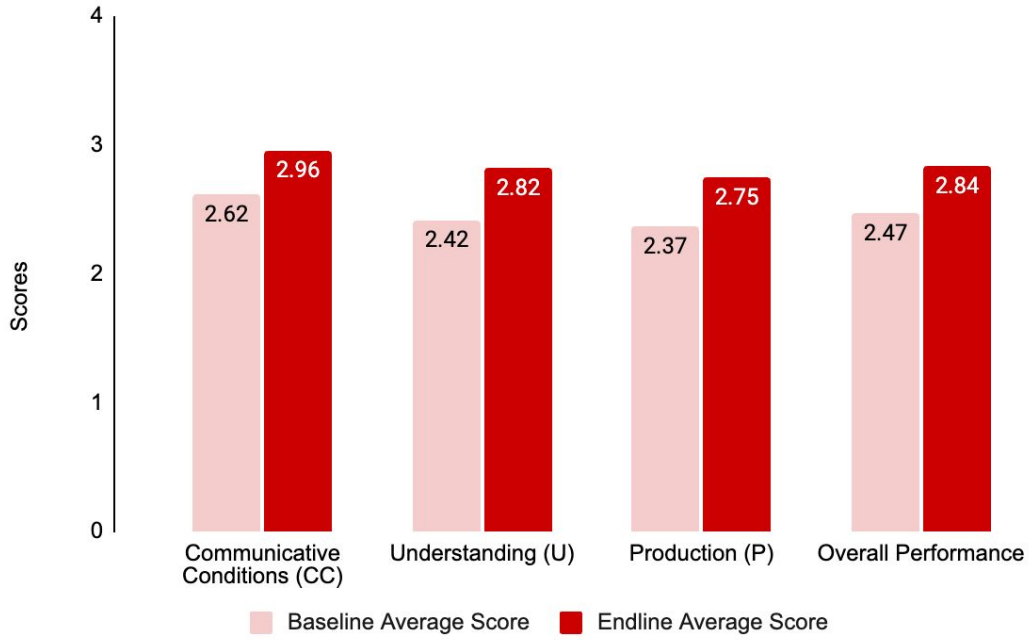


Predictor	Association
Having no additional disability	Positively associated with overall scores

COMBINED GRADES

Learners across all grades showed clear, statistically significant learning improvements, with strong gains across all outcomes

Comparison of KOL Outcome Scores across all grades : Baseline vs Endline.



Predictor	Association
Having no additional disability	Positively associated with overall scores
Having a deaf family member	Positively associated with overall scores

- Learners across all four grades demonstrated consistent improvements across all assessed domains between baseline and endline.
  - Communicative Conditions increased by 0.34 points
  - **Understanding skills 0.40 points**
  - **Production skills improved by 0.38 points**
  - Overall learner performance increased by 0.37 points
- Across the full sample, a clear pattern of improvement was observed: 67% met the minimal gain threshold (0.1), and 52% achieved or surpassed the target gain (0.3). A paired t-test confirms a statistically significant improvement from baseline to endline ($p < 0.001$).
- Performance trends also indicate that learners who were *only* deaf or hard of hearing or those who had a deaf family member often performed better than those without a deaf family member or those with co-occurring disabilities.

Learning Gains

The target learning gains of 0.28 were surpassed by 0.09 in Year 3

Period	Minimum	Ceiling	Target	Learning Gains Achieved
Yr 1 - 2023	N/A	N/A	N/A	N/A
Yr 2 - 2024	0.16	0.32	0.28	0.27
Yr 3 - 2025				**0.37**

Summary of Grade-Level Findings

- **Learners across all grades showed significant progress from baseline to endline.** Overall, 67% achieved at least the minimum learning gain of 0.1, and 52% met the target gain of 0.3. This demonstrates a consistent positive impact of the intervention on learner performance.
    - Strong gains in Understanding skills were observed across all grades, aligning with developmental research showing that receptive language tends to improve earlier and more consistently than expressive skills in DHH learners when exposed to rich sign language (Mayberry, 2002; Humphries et al., 2014)
- **Teachers' observation remarks suggest that peer learning within the schools strengthens signing skills.**

  Most learners (90%) might be lacking exposure to sign language-rich environments at home, only 10% across all grades reported to have a deaf family member. Learners with a deaf family member consistently showed higher gains.
- **Learners with co-occuring disabilities such as cerebral palsy, autism, or ADHD showed comparatively lower improvements.** This highlights the need for additional or specialised support for children with **multiple** learning needs. Tailored interventions may help close this performance gap.

Insights on Teacher Engagement with DST Content

Photo credit: unsplash

Snapshot of Teachers Engaging with DST Intervention

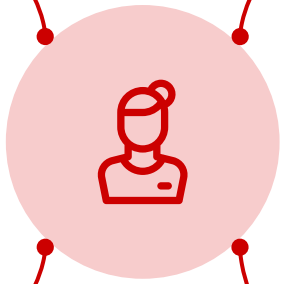
A total of **66 teachers** from **14 schools** participated in the survey in year 3, offering insights into how DST content and the KOL tool are used across classrooms in different schools. They represent a diverse mix of classroom responsibilities and teaching experiences. Most are class teachers working with small, mixed-gender classes and are actively using DST videos as part of their weekly instructional routines.

Teacher Roles

- **53 teachers (80%)** were class teachers.
- **9 teachers (14%)** were not class teachers, and 2 served as deputy heads.

Class Sizes

- Teachers reported an **average class size of 11 learners**
- On average: **5 girls** and **6 boys** per class.
- Most teachers handled **a single grade only** (e.g., PP1 or Grade 2). Only **5 teachers** taught **multigrade** classes



Use of DST Content

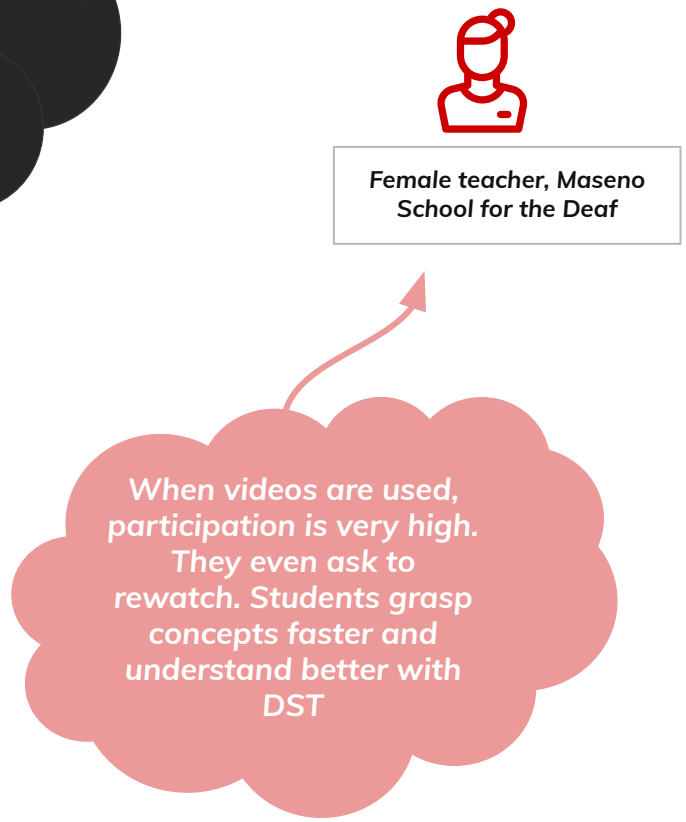
- **56 teachers (85%)** reported using DST videos during lessons while **10 teachers (15%)** had **not used DST content.**
- Among DST users, many began around **February–March 2025. 24 teachers (43% of DST users)** reported starting in these two months.

Frequency of DST Use

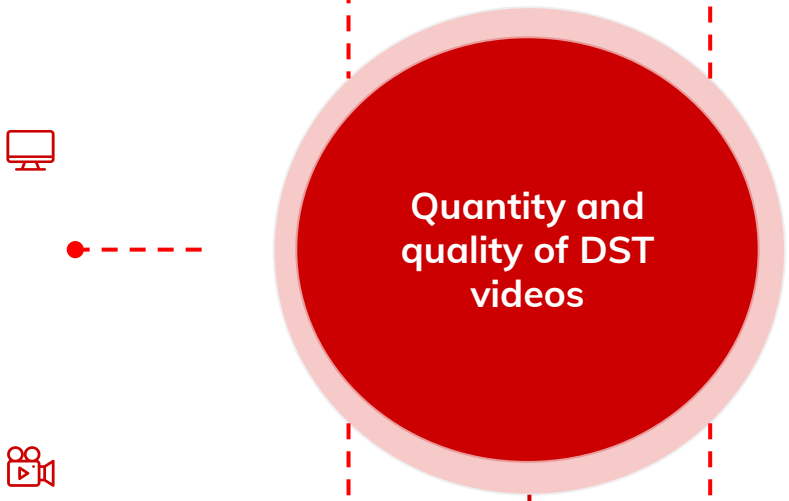
- **19 teachers (34%)** used DST videos **twice a week; 17 teachers (30%)** used them **once a week,** while **16 teachers (29%)** used them **almost daily or multiple times weekly**

Teachers Integrate DST Videos Flexibly in Their Schedule, and Learners Show High Engagement and Enjoyment During DST Sessions

- DST use is integrated into school routines in diverse ways, with no single standardized schedule across schools. Many teachers reported having designated DST sessions, often in the afternoons, during regular lessons, or on Fridays after breaktime. Others exercised full autonomy, incorporating DST videos during lessons, after class, or whenever the story aligned with the topic being taught.
- Teachers described using DST to introduce lessons, reinforce concepts after teaching, or provide assignments. In several schools, DST is scheduled on the timetable, while in others teachers use it more flexibly during free time, evening lessons, or as a support tool to help learners grasp difficult content.
- They observed that learners are highly excited, attentive, and active during DST sessions compared to regular lessons. Learners sign along with the storyteller, imitate the characters, interact with peers, and remain focused throughout the viewing. Many teachers noted that students grasp concepts faster, retain content better, and demonstrate increased motivation to participate, answer questions, or retell stories after watching the videos.



DST Videos Are Clear, Relevant, and Well-Paced, With Mostly Positive Teacher Ratings on Quantity and Duration



Video clarity:

Majority of teachers (54) reported that the sign language in the videos is clear or very visible and easy for deaf learners to follow.

Pacing:

Most teachers (43) felt the pace was appropriate for deaf students, allowing them to follow comfortably; 10 teachers were neutral.

Number of videos:

We noted a differing pattern regarding the adequacy of the number of videos, indicative of school-specific needs. Many teachers rated the number of available videos as adequate, although a notable group (22) felt the number was insufficient, with 10 being neutral.

Clarity of explanation:

Nearly all teachers (56) found the explanations clear or very clear, indicating strong accessibility of content.

Duration of videos:

48 teachers felt the duration was "About Right," while 6 reported that the videos were too long.

Relevance:

The videos are largely seen as addressing key curriculum topics in a meaningful way, with 52 teachers finding it effective/very effective.

Depth:

Most teachers (47) rated the depth as good or very good, indicating a proper balance between foundational and advanced concepts. A smaller group (9) rated it as average.

Teachers Appreciate DST Videos for Clarity, Engagement, and Curriculum Relevance, Suggested for Inclusion of Additional Topics and Minor Pacing Adjustments

Features teachers like about DST …

- Teachers mentioned that DST videos are visually clear, engaging, and easy for learners to follow, supporting signing, comprehension, and vocabulary development.
- They highlighted that videos encourage critical thinking, life skills, and learner motivation, making lessons enjoyable and memorable. They found the content to be relevant to the curriculum, age-appropriate, and included interactive elements such as alphabet dances, storytelling, and quizzes.

DST features teachers don't like …

- A few teachers were concerned about the pacing of the videos, they described them as too fast, while others pointed out that the number of videos was insufficient relative to the curriculum topics.
- Some teachers also noted that a few videos are too long or some questions too difficult for certain grades.
- Suggestions included adding more topics (e.g., numbers, songs, role play, games) and occasional adjustments to graphics or signs for clarity.

"I like the videos because it improves their signing and language; the visuals are motivating and the stories are interesting." – ***Teacher, Kwale School***

"The pace, duration, and clarity are good for learners, and the alphabet dance helps them recall letters and words." – ***Teacher, St. Luke School***

"Some stories are too long, and some questions are too hard for the grade level." – ***Teacher, Maseno School***

"The pace of signs and audio does not always match, and a few videos use unfamiliar signs." – ***Teacher, Wajir Primary School***

DST is Used by Most Teachers and Improves Engagement, but Gaps Remain for Learners With Additional Needs

- Teachers frequently suggested *slowing the signing pace* especially for PP1 and PP2 learners to improve comprehension. Some also recommended shortening longer stories to match attention spans.
- Teachers want *more videos and broader content coverage*, including more topics per grade, systematic alignment with the KSL curriculum, and additional interactive elements (songs, role play, games, dances).
- Several noted the need to *align signing with audio*, improve clarity of glossary sections, use standardised signs, and ensure visuals (images/graphics) better reflect learners' environments.
- Teachers also requested *technical and usability improvements*, including the ability to control pace, louder audio for hard-of-hearing learners, and more colourful, interactive presentation styles.

"Make the stories shorter and more interactive; some are too long for PP1 attention span ... It would help if the interface allowed me to control the pace." - ***Teacher, Ziwani School***

Additional Topics Proposed

- Teachers recommended expanding DST to include more *curriculum-linked themes*: numbers, shapes, letters, weather, nutrition, time, family, verbs, animals, environment, and creative arts.
- Many asked for *religious and moral education topics*, including CRE stories, bible stories, prayers, and life skills content.
- Additional suggestions included *maths topics*, social interaction, digital devices, health, farming, transportation, fruits, and PP1-specific foundational content.

"We need topics like weather, numbers, days of the week, wild animals, and family members." - ***Teacher, Kapsabet School***

"Include more mathematics and environmental topics, plus creative arts." - ***Teacher, Murang'a School***

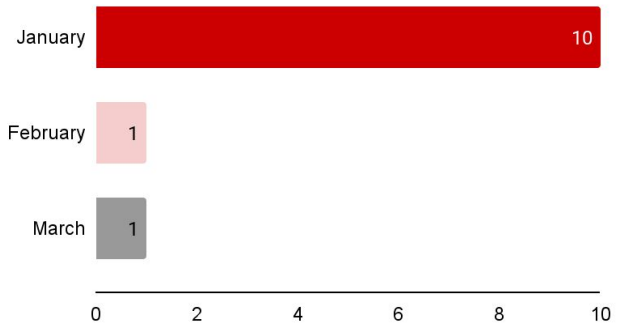
Insights on Deaf DST Teacher Experiences and Perceptions

Digital StoryTime

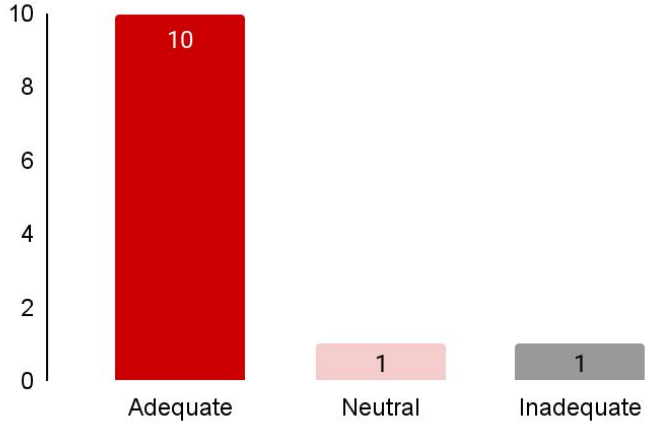
Deaf DST Teachers Report Strong Integration into New Schools and Have Observed High Levels of Student Engagement and Vocabulary Growth

- The majority of the deaf DST teachers (10 out of 12) began their teaching tenure at the start of the school year (January). Almost all respondents rated the support provided during their onboarding process as "Adequate," indicating a successful induction phase
- There is a high level of reported deaf DST teacher efficacy. Nearly all teachers (11 out of 12) feel they have connected with and positively influenced their students to a "Great Extent" during their initial time at the schools.
- Teachers report that the introduction of DST videos and consistent signing has shifted learners from having "little to no language" to being active participants. Key observations include improved vocabulary, increased confidence in self-expression, and better classroom etiquette.

1. Which month did you start teaching in your current school?



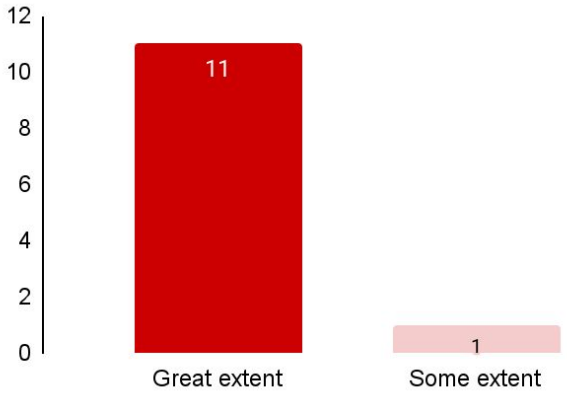
2. Reported level of support provided to deaf DST teachers during onboarding process



*"I have seen great improvement considering they came with little to no language but after interacting with the videos, they have built on their vocabulary." – **DST Teacher, St. Luke***

*"I have had a lot of influence in helping them love school work and have proper class etiquette... when I joined learners loved staying and gazing on the window during class time." – **DST Teacher, Mundika Primary***

3. Extent to which deaf DST teachers connected with and positively influenced their students at the school

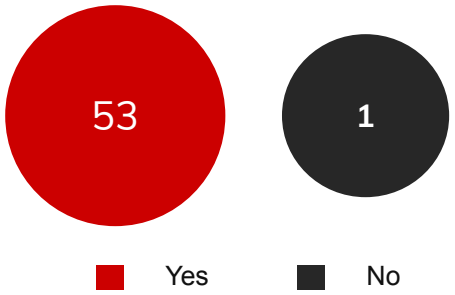


Other School Teachers Express Strong Positive Views of Newly Deployed Deaf DST Teachers

A majority of teachers (53) reported that they had interacted with deaf DST teachers deployed to their schools. They highlighted several improvements they had observed since the deaf DST teachers joined their schools:

- **Significant Improvements in Learner Engagement:** Learners are more active, motivated, and excited during lessons. They also observed Increased participation and improved classroom interactions.
- **Gains in Signing, Vocabulary, and Language Development:** Teachers credited deaf DST teachers for creating richer sign-language environments in classrooms. Learners show better signing skills, quicker vocabulary recall, and improved storytelling.
- **DST Teachers as Positive Role Models:** Learners appear more confident and expressive, with several teachers noting that deaf DST teachers serve as relatable, inspiring role models especially when the teacher is also Deaf.
- **Valuable Support to Other Teachers and School Staff:** DST teachers assist colleagues with signs, vocabulary, and ICT use. They help interpret DST content and improve general communication within the school

Whether other teachers interacted with newly deployed deaf DST teachers



"Learners are very active in signing... she has enhanced the sign language environment among learners and teachers." - ***Teacher, Mumias School***

"Students have improved in vocabulary and can express themselves better. The DST teacher is a great resource to both learners and teachers." - ***Teacher, Mundika Primary***

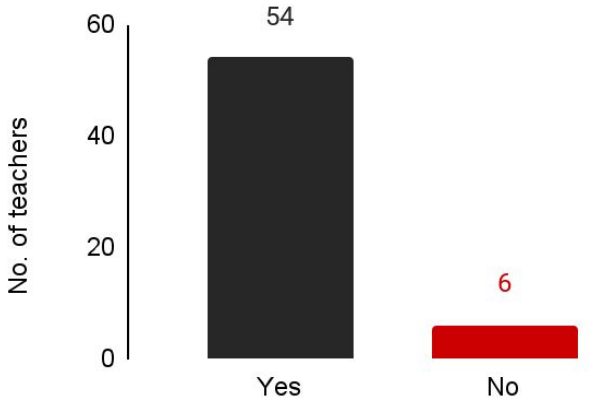
"When they are with the DST teacher the children participate more and are active. Their relationship with the learners is fantastic." - ***Teacher, Hola Primary***

Teacher Engagement with KOL Tool

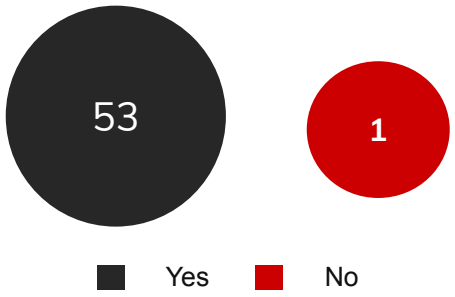
Digital StoryTime

Most Teachers are Trained, Actively Using the KOL Tool, and Administering it Regularly, With Usage Spread Across all Grades

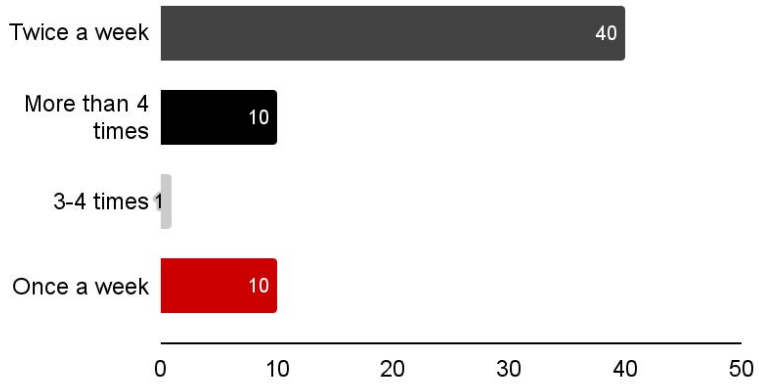
1. Have you received training on using the KOL tool?



2. Have you assessed learner scores using the KOL tool?



3. How many times have you administered the KOL tool?

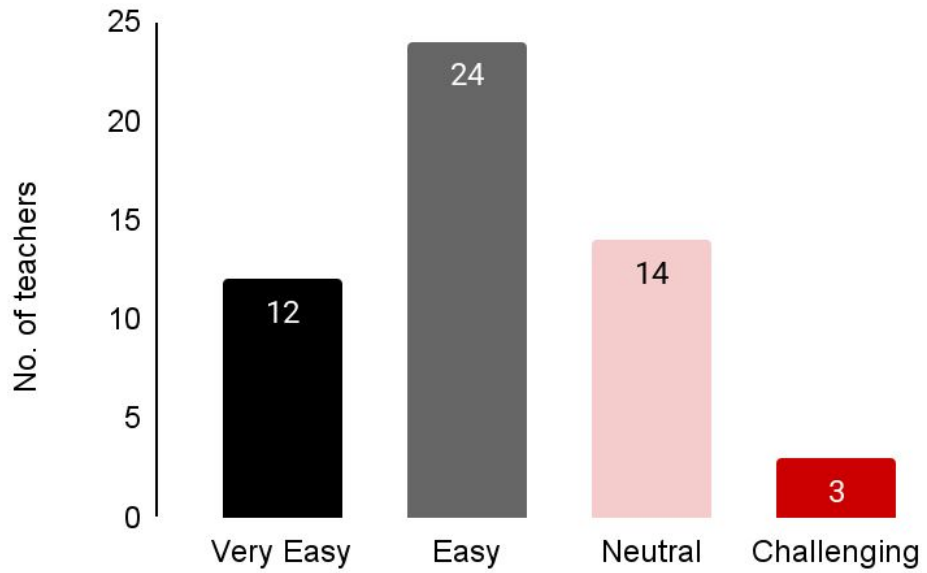


Grades assessed using the KOL tool				
	PP1	**PP2**	**Grade 1**	**Grade 2**
Count of teachers who have used KOL	12	14	10	11

- Almost all teachers (54 out of 60) reported receiving training on the KOL tool, and 53 have used it to assess learners, showing very strong uptake of the tool across schools.
- Most teachers administer the KOL assessment frequently; 40 teachers used the tool twice a week, and other 20 teachers administer it weekly or more, reflecting strong integration of the tool into classroom routines.
- KOL is used primarily for actual learner assessment, with 50 teachers reporting formal use and only 3 using it for practice, indicating it is being used for its intended purpose.

Most Teachers Feel Well-prepared and Confident to Administer the KOL Assessment, But a Minority Still Face Challenges; Mainly Time Constraints, ICT skills, Long Tool Length, and Difficulties Assessing Learners With Multiple Disabilities.

Teachers' experience with the tool is largely positive, with 36 teachers rating KOL as 'Very Easy' or 'Easy,' while only 3 found it challenging



Teacher experience using the KOL tool

- The majority of teachers reported being *well prepared* to conduct the KOL assessment. Many attributed their confidence to the training received, hands-on practice, and continued support from the eKitabu team. They frequently mentioned feeling ready because they understand their learners well and have used the tool multiple times.

  "*I feel well prepared, I have received training and have been assisted by the eKitabu team making me confident.*" - **Teacher, Hola Primary**

- Teachers highlighted challenges including the time-consuming nature of assessments, difficulties with ICT or internet access, and complexities in assessing learners with multiple disabilities or slower comprehension. A few teachers also noted that certain technical vocabulary or long statements in the tool made administration more demanding.

  "*For someone to administer they need to be computer literate and also the tool is time consuming. Needs some more training.*" - **Teacher, Kibarani School**

Teachers generally find the KOL tool effective but suggest streamlining questions, improving support for diverse learners, and enhancing access and alignment with classroom materials to maximize its usability and impact.

While several teachers reported that the tool is satisfactory as-is, some proposed the following adjustments that would improve its implementation:

1. **Streamlined Assessment Questions:** Shorten or combine questions to reduce redundancy, simplify administration, and make the tool less time-consuming.

2. **Inclusive Design for Diverse Learners:** Adapt the tool to better assess learners with multiple disabilities, slower comprehension, or varying abilities.

3. **Enhanced Teacher Support and Training:** Provide additional guidance, examples, and ongoing training to improve confidence and consistency in tool administration.

4. **Improved Familiarization and Access:** Give teachers early access to the tool and ensure stable internet or digital infrastructure to facilitate smooth administration.

Summary of Teacher Level Findings

- Teachers generally view DST videos positively, highlighting clarity, relevance, appropriate pacing, and visual appeal. Most teachers find the video length and number of topics suitable, though opinions on content depth vary.
- Other school teachers consistently report strong positive perceptions of newly deployed DST teachers, noting improvements in learner engagement, vocabulary, storytelling, sign language skills, confidence, and classroom participation.
- Majority of teachers feel well prepared and confident because of the training and ongoing eKitabu support. Most administer assessments at least twice weekly, using the tool for actual evaluation. Key challenges include lengthy assessments, technical demands, internet connectivity, and difficulties assessing learners with multiple disabilities.

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Appendix

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Appendix A | Learning Gains

Learning gains are defined as the average difference in learners' KOL scores between baseline and endline assessments. In this year 3 endline evaluation, we computed learning gains by averaging the changes in scores across the three key indicators: Communicative Conditions, Understanding Abilities, and Production. The table below presents the average learning gains for each grade:

Grade-level Learning Gains				
	PP1	**PP2**	**Grade 1**	**Grade 2**
Learning gains	0.37	0.33	0.44	0.34

Appendix A | Predictor variables

This section summarizes the associations between learner outcomes and key learner characteristics using appropriate statistical tests. The analysis explores whether factors such as gender, presence of a deaf family member, disability status, and level of hearing loss are linked to variations in KOL scores across grades. The tables below present the direction and significance of these associations.

Grade	Predictor	Association	Significance	Test
PP1	**Student gender**	Female learners slightly perform better than male counterparts	*Not significant*	*Linear regression*
	Having a deaf family member	Positively associated with overall scores	*Significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Having no co-occurring disability	Positively associated with overall scores	*Significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Hearing Loss Level	Hard of hearing learners perform slightly better than the deaf	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*

Grade	Predictor	Association	Significance	Test
PP2	**Student gender**	Female learners slightly perform better than male counterparts	*Significant*	*Linear regression*
	Having a deaf family member	Positively associated with overall scores	*Significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Having no co-occurring disability	There is a slight positive association with overall scores	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Hearing Loss Level	Hard of hearing learners perform slightly better than the deaf	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*

Appendix A | Predictor variables

Grade	Predictor	Association	Significance	Test
Grade 1	**Student gender**	Female learners slightly perform better than male counterparts	*Not significant*	*Linear regression*
	Having a deaf family member	Positively associated with overall scores	*Significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Having no co-occurring disability	Slight positively association with overall scores	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Hearing Loss Level	Hard of hearing learners perform slightly better than the deaf	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*

Grade	Predictor	Association	Significance	Test
Grade 2	**Student gender**	Female learners slightly perform better than male counterparts	*Not significant*	*Linear regression*
	Having a deaf family member	Slight positive association with overall scores	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Having no co-occurring disability	Positively associated with overall scores	*Significant*	*Wilcoxon rank-test (small group < 30 sample size)*
	Hearing Loss Level	Hard of hearing learners perform slightly better than the deaf	*Not significant*	*Wilcoxon rank-test (small group < 30 sample size)*