



Research & Studies
From project

Disability Data in Schools:

Testing the Child Functioning Module – Teacher Version (CFM-TV) in Emergency and Protracted Crises

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Abstract

Context: Improving access to education for persons with disabilities depends upon reliable data, but this is often expensive, inefficient and inaccurate. This study, conducted by Humanity & Inclusion with the support of Education Cannot Wait (ECW), investigated the use of the Child Functioning Module – Teacher Version (CFM-TV) in challenging contexts. The CFM-TV is a tool designed to assess the functional difficulties of students through teacher evaluations.

General and specific objectives: The DiDa-Schools project aims to contribute to the production of dependable data on disability in school settings in fragile contexts. The first specific objective was to assess the comprehensibility of the CFM-TV by the target respondents. The second and main objective was to assess the reliability of the CFM-TV. The project assesses the consistency of results when repeated in identical conditions (same teachers assessing the same learners, three weeks apart) and the degree to which it agreed with other data collection methods by other respondents (CFM by caregivers and self-report). Finally, the research aims to evaluate the feasibility and practicability of the CFM-TV in real school/classroom situations.

Methods: The research is implemented in Uganda, in the Kyaka II settlement. This research employs a mixed-methods approach. First, cognitive interviews were led with teachers and learners over 12 years in two randomly selected schools. To explore the CFM-TV reliability, three other schools were randomly selected, with one class per grade randomly selected from each school, making a total of 21 classes and then 21 teachers. Quantitative surveys were administered within three groups: teachers (two sessions, three weeks apart), caregivers, and learners over 12. Finally, 3 focus group discussions and 5 case studies were conducted to assess the feasibility of implementing CFM-TV in other school settings.

Findings: Teachers' feedback on the questionnaire was generally positive, even if disparities emerged between functional dimensions. Results point towards a moderate level of agreement between the two assessments done by the teachers 3 weeks apart. Teachers generally showed determination in assessing students, even with large classes. However, teachers and caregivers showed limited agreement in their assessments of the disability status of children based on their roles, experiences, and priorities – teachers focusing on the learning perspective and caregivers on the child's well-being perspective. Finally, CFM-TV's catalyst effect on inclusive teaching includes positive changes in teacher attitudes and practices, as well as unexpected improvements in learner dynamics and participation.

Conclusion: The research highlights how teachers can effectively use the questionnaire to assess students and generate reasonably reliable disability data as proxies. The CFM-TV can be a promising tool in supporting inclusive education efforts in such difficult situations. Teachers and caregivers can be proxies to assess the disability status of children but the data produced will not get the same meaning and will not be relevant for the same purposes.

Part 1 – Introduction

1. General background

1.1 Disability data gaps

Data is indispensable in informing stakeholders about current social challenges and ensuring that no one is left behind. The World Report on Disability¹ estimated that persons with disabilities constitute up to 15% of the population, with 2-4% reported to experience significant difficulties in functioning. However, available disability data globally often suggests an underestimation of persons with disabilities among the total population. Data on disability is difficult to collect due to varying definitions of disability, lack of standardized and easy-to-use instruments for accurate identification of disability, inconsistent application of the identification tool, and stigma and discrimination².

This gap is increasingly evident regarding data on children and youths with disabilities. Without such data, it is impossible to understand the specific requirements of children and youth with disabilities, analyze the barriers they are facing, and plan and monitor policies, strategies, budgets, and programs to ensure their right to quality education is realized. When absent from official statistics, children with disabilities are politically and socially “invisible.”³ The need for quality data is especially crucial for education in emergency crises due to the increased challenges faced by persons with disabilities in these situations⁴.

1.2 Existing tools for children

The Washington Group on Disability Statistics (WG)⁵ follows the biopsychosocial model of disability, focusing on the presence and extent of basic functional difficulties rather than on body structure or conditions. These functional restrictions put individuals at risk of participation limitations. They have developed different sets of questions to collect reliable and cross-nationally comparable disability-related data.

The most widely used tool is **the Short Set (SS)** with six questions, covering six domains (vision, audition, mobility, self-care, cognition, communication). It was developed for population surveys and targets adults. This tool has now become the standard for disability data collection, and its use has spread beyond population surveys. Indeed, organizations of Persons with Disabilities and NGOs have adopted the module, tested it, and promoted its use in other contexts (as humanitarian settings) and for other purposes (as programming)⁶.

¹ <https://apps.who.int/iris/handle/10665/44575>

² Sightsavers (2021). [Disability-related stigma and discrimination in sub-Saharan Africa and South Asia: a systematic literature review](#). In B. Virendrakumar, C. Stephen, E. Jolley, & E. Schmidt (Eds.), Haywards Heath. Haywards Heath.

³ <https://unstats.un.org/unsd/undataforum/blog/closing-data-gap-on-children-with-disabilities/>

⁴ UNICEF. (n.d.). [Children with disabilities in emergencies: Every child has the right to live in an inclusive world. IASC Guidelines, Inclusion of Persons with Disabilities in Humanitarian Action](#), 2019.

⁵ <https://www.washingtongroup-disability.com/>

⁶ https://www.humanity-inclusion.org.uk/sn_uploads/document/2018-10-summary-review-wgq-development-humanitarian-actors.pdf

It has also been used to collect disability data on children by interviewing the heads of households (as part of a census, for example). However, it is proven that the SS would miss many children who have functional difficulties beyond the six functional domains⁷. Assessing disability in children is particularly complicated due to the continuum of development experienced throughout childhood⁸.

Therefore, in 2016, UNICEF and the WG developed **the Child Functioning Module (CFM)**. The module aims to identify children with functional difficulties which may place them at a greater risk of experiencing limited participation than children without functional difficulties. It intends to provide a population-level estimate of the number and proportion of children with functional difficulties. The module is composed of two questionnaires: one with 16 questions for children aged 2-4 and the other with 24 questions for children aged 5-17. Both surveys are designed to be completed by the primary caregiver (recommended the mother), who will provide information for each child.

CFM by caregivers in humanitarian settings

Asking 24 questions may be time consuming, especially in emergencies and protracted crises, but previous experiences showed it was possible (and useful) to collect disability data, especially in fragile contexts.

In 2017 and 2018, HI in collaboration with iMMAP⁹ conducted a survey to assess the situation of children and adults with and without disabilities within the Syrian refugee populations in camps in Jordan and Lebanon¹⁰. The data collection tool asked questions concerning Syrian refugees' access to basic services (health, education, livelihoods) and challenges they face to access these services. To disaggregate data by disability, questionnaires also included the CFM for children (age 2-4 and 5-17). CFM was administered to 3,516 children (responded by their caregivers) and generated age, gender, and disability disaggregated data to highlight different experiences accessing services.

⁷ UNICEF & WG. (2018). Module on Child Functioning: Manual for Child Interviewers. In United Nations Children's Fund (UNICEF). <https://www.washingtongroup-disability.com/>

⁸ Mactaggart I & al. Field testing a draft version of the UNICEF/Washington Group Module on child functioning and disability. Background, methodology and preliminary findings from Cameroon and India (2016). Alter. <https://www.sciencedirect.com/science/article/pii/S1875067216300542>

⁹ <https://immap.org/>

¹⁰ Humanity & Inclusion and iMMAP (2018). Removing barriers: The path towards inclusive access. Disability Assessment among Syrian Refugees in Jordan and Lebanon (2018). Full reports and factsheets are available at the [Removing Barriers - Google Drive](#). The full dataset is also available at the [HDX website](#)

In 2018, the WG developed a new tool based on CFM, called **the CFM Teacher Version (CFM-TV)**, intended to be completed by teachers in a classroom setting ([Appendix 1](#)). CFM-TV comprises of 13 questions covering 12 domains of functional difficulties: seeing, hearing, walking, communication, learning, remembering, concentrating, accepting changes, controlling behavior, making friends, anxiety, and depression. How does CFM-TV differ from CFM?

- Some domains are still included but with fewer questions, such as mobility.
- Others were removed, as the items were considered too closely related to home activities and thus less relevant from a teacher's perspective, such as self-care.
- Certain items were reformulated to precisely align with what a teacher can observe and assess, as in the case of communication.

This tool has not been widely implemented as its characteristics have yet to undergo testing. The first small-scale research was conducted in Senegal in secondary schools and yielded promising results¹¹.



Definition of a proxy

A proxy is a person who is authorized to serve in another person's place. Proxies play a crucial role in surveys as sources of health or socio-demographic information for individuals who may not possess the ability to answer (such as those with cognitive disabilities or children). They bridge the data gap for individuals who might be challenging to interview directly. However, this approach comes with certain risks. For instance, the use of proxy respondents can lead to inaccurate reporting due to gaps in information or variations in preferences and motivations between the proxy and the intended respondent.

Who can act as a proxy for children? The ideal proxy is someone who spends a lot of time with the subject and has extensive knowledge about their functional abilities. The choice of proxy may vary based on the specific topic, but parents and primary caregivers are generally the first option. Teachers also have the extent of understanding of the individual to make them a suitable proxy.

¹¹ Brus, A., Deleu, M., & Loeb, M. (2019). Testing a teacher version of the UNICEF/Washington Group Child Functioning Module (CFM-TV) in Senegal. In *Humanity & Inclusion*. Humanity & Inclusion.

2. Ugandan context

2.1 Disability – Policies and figures

Uganda ratified CRPD in 2008, which places an obligation on the government to promote inclusive education (as outlined in Article 24) and to gather statistics and data to facilitate the formulation, implementation, and monitoring of disability-inclusive policies (as specified in Article 31).

In alignment with this commitment, during the Global Disability Summit (2018 and 2022), the Ministry of Education and Sports (MoES) pledged to review the Education Management Information Systems, seeking viable methods to collect and effectively utilize disability-related data. Throughout the drafting process of the Education Response Plan for Refugees and Host Communities in Uganda II (ERP II), education stakeholders have expressed their commitment to collecting disability data within the education sector. The MOES launched the ERP II in May 2023 which pledges to “ensuring disability inclusion and permitting data disaggregation and analysis by disability using internationally comparable tools such as the Washington Group set of questions”¹².

2.2 Key figures in settlements

The survey “Disability Data in Schools” was conducted in three schools in the Kyaka II Refugee Settlement. Following the last figures shared by United Nations High Commissioner for Refugees [UNHCR] in 2023¹³, the Kyegegwa District, where the Kyaka II settlement is located, is home to 121,934 refugees (9% of the refugee population in Uganda) alongside 475,600 host (Figure 1). In Uganda, excluding refugees, the population is around 44.2 million individuals¹⁴. Refugees and asylum seekers represent 1,578,661 people.

In Uganda the UNHCR reported in 2022 that the refugee population primarily originates from Southern Sudan (56%), the Democratic Republic of Congo (DRC, 32%), Somalia (4%) and Burundi (3%)¹⁵. In Kyaka II, 95% of the population originates from the DRC, 3% from Rwanda, and 3% from Burundi¹⁶.

¹² Ministry of Education And Sports [MOES], 2023, p. 43.

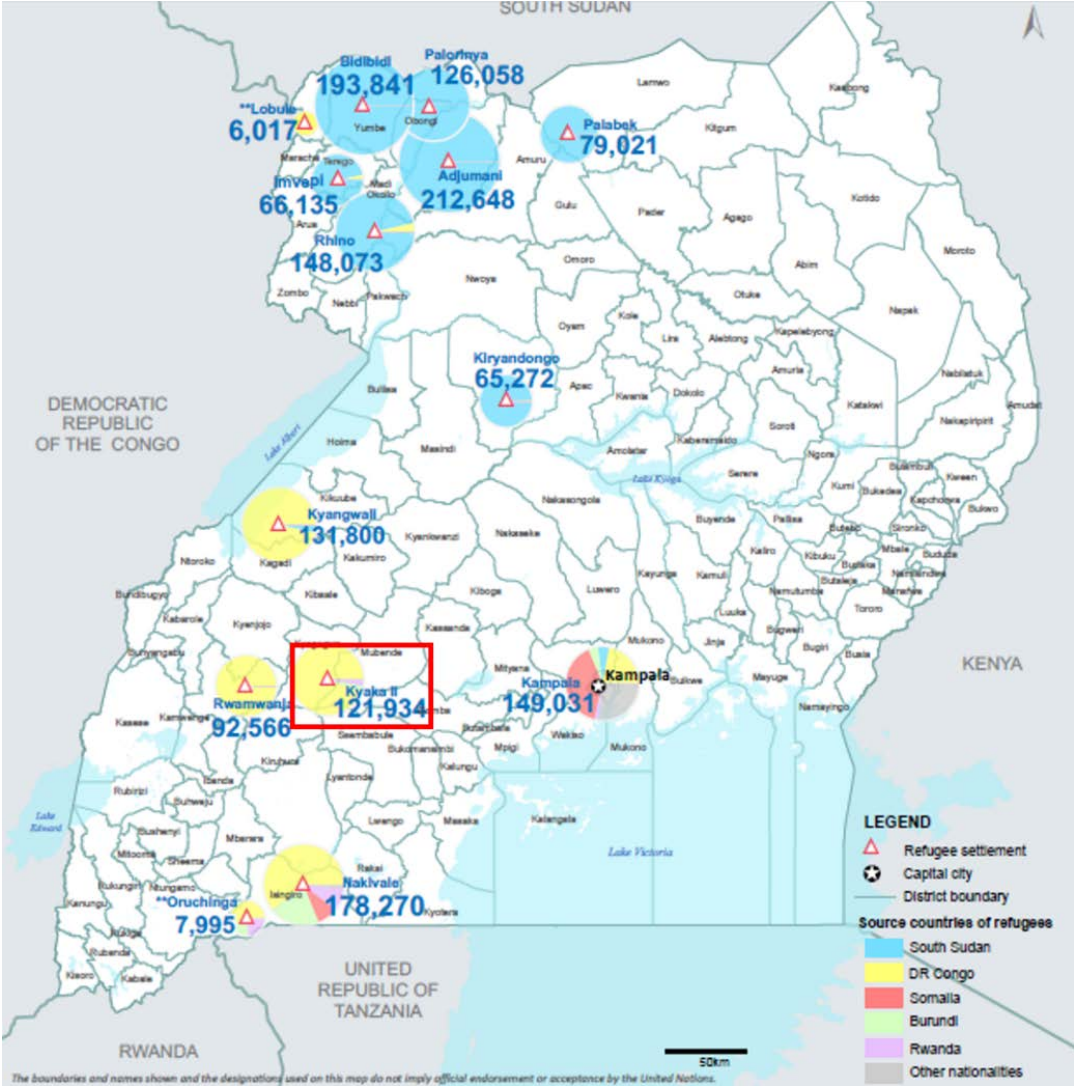
¹³ Office of the Prime Minister and United Nations High Commissioner for Refugees [UNHCR]. (31 July 2023). Refugees by districts and host population by district. Accessed on 31 August 2023 at <https://data.unhcr.org/en/country/uga>.

¹⁴ Uganda Bureau of Statistics (UBOS). (2022). 2022 Statistical Abstract. The figure is the projection by UBOS. See Figure 2.1.1b. Accessed on 31 August 2023 at https://www.ubos.org/wp-content/uploads/publications/05_20232022_Statistical_Abstract.pdf.

¹⁵ Office of the Prime Minister and UNHCR. (31 July 2023). Refugees by country of origin. Accessed on 31 August 2023 at <https://data.unhcr.org/en/country/uga>

¹⁶ UNHCR. (2022). Uganda—Refugee Statistics September 2022—Kyaka II. Accessed on 31 August 2023 at <https://data.unhcr.org/en/documents/details/96190>.

Figure 1: Refugees and Asylum-Seekers in Uganda (July 2023)¹⁷



In March 2014, the UNHCR estimated the refugee population of Kyaka II at 22,680 persons. However, as of February 2022, this estimate had significantly increased to 135,827 individuals, residing in a total of 43,447 households. Proportionally, 40% of the refugee population falls within the age range of 5 to 17, while 45% are aged over 18. Additionally, the 15–24 age group constitutes 21% of the population. In 2020, adolescents aged 10–19 comprise 28.2% of the refugee population in Uganda¹⁸. This proportion is slightly lower than the national level (excluding the refugee population), which stands at 32.6%.

As demonstrated in the Table 1, the age distribution within the Kyaka II settlement differs slightly. Specifically, the proportion of adolescents aged 12–17 is lower at 16%, compared to the estimated national level of 32.6%, as well as the proportion for other refugee settlements which stands at 28.2%.

¹⁷ <https://reliefweb.int/attachments/22e358f5-248e-4da5-be8d-8369d12e974a/Map%20-%20Refugees%20and%20Asylum%20Seekers%20-%20Uganda%2031%20Jul%202023.pdf>

¹⁸ STAT compiler, Uganda profile. <https://www.statcompiler.com/en/>

Table 1: Percent distribution of population (National, Refugee settlement, Kyaka II, Uganda)

Population by age	National*	Refugee settlements*	Kyaka II**
0–17	56.5%	65.5%	59%
18+	43.5%	34.5%	45%
Adolescents (10–19)	32.6%	28.2%	
Adolescents (12–17)	-	-	16%

Sources: * Uganda Malaria Indicator Survey 2018-19. Kampala, Uganda, and Rockville, Maryland, USA: NMCD, UBOS, and ICF. ** UNHCR Refugee Statistics February 2022—Kyaka II.

In terms of living conditions, based on the most recent available data¹⁹, refugees enjoy better access to basic water services at a rate of 66.9% compared to 52.2% of the national population. However, a notable disparity exists in terms of land access. In Kyaka II, only 5% of households have access to land, compared to 35.6% of households in the broader Ugandan population. From a socio-economic perspective, a significant proportion of the refugee population (62.2%) falls into the category of extreme poverty (lowest wealth quintile). The Gini coefficient for this group is 0.31, while at the national level, it is 0.28. Unlike the Ugandan national population, where wealth is evenly distributed across quintiles, refugees face concentrated poverty.

Women in refugee settlements face numerous difficulties and challenges. In Uganda, the fertility rate among refugee women is significantly higher, standing at 6.8 children per household, compared to 5.7 within the national population²⁰. Educational attainment among refugee women remains low, with nearly 42% of refugee women aged 15–49 having no formal education, in contrast to just 12% in the national population. Nationally, the median years of education completed by women is 5.9 years. However, for refugee settlements, this figure drops significantly to just 2.0 years. Additionally, the literacy rate among young women aged 15–24 is significantly lower at 40.8%, as opposed to the Ugandan national rate of 79.7%. Data also provides insights into the prevalence of blindness among women in refugee camps, indicating a rate of 0.3%, which is comparable to the national rate.

In May 2019, REACH (IMPACT Initiatives)²¹ conducted an assessment to collect baseline data on the access to Housing, Land, and Property (HLP) and livelihoods of female-headed refugee households (HHS). According to the REACH survey, at the national level, 67% of women are identified as HHS in refugee settlements. In Kyaka II, this proportion is slightly lower, at 63%²².

¹⁹ STAT compiler, Uganda profile. <https://www.statcompiler.com/en/>

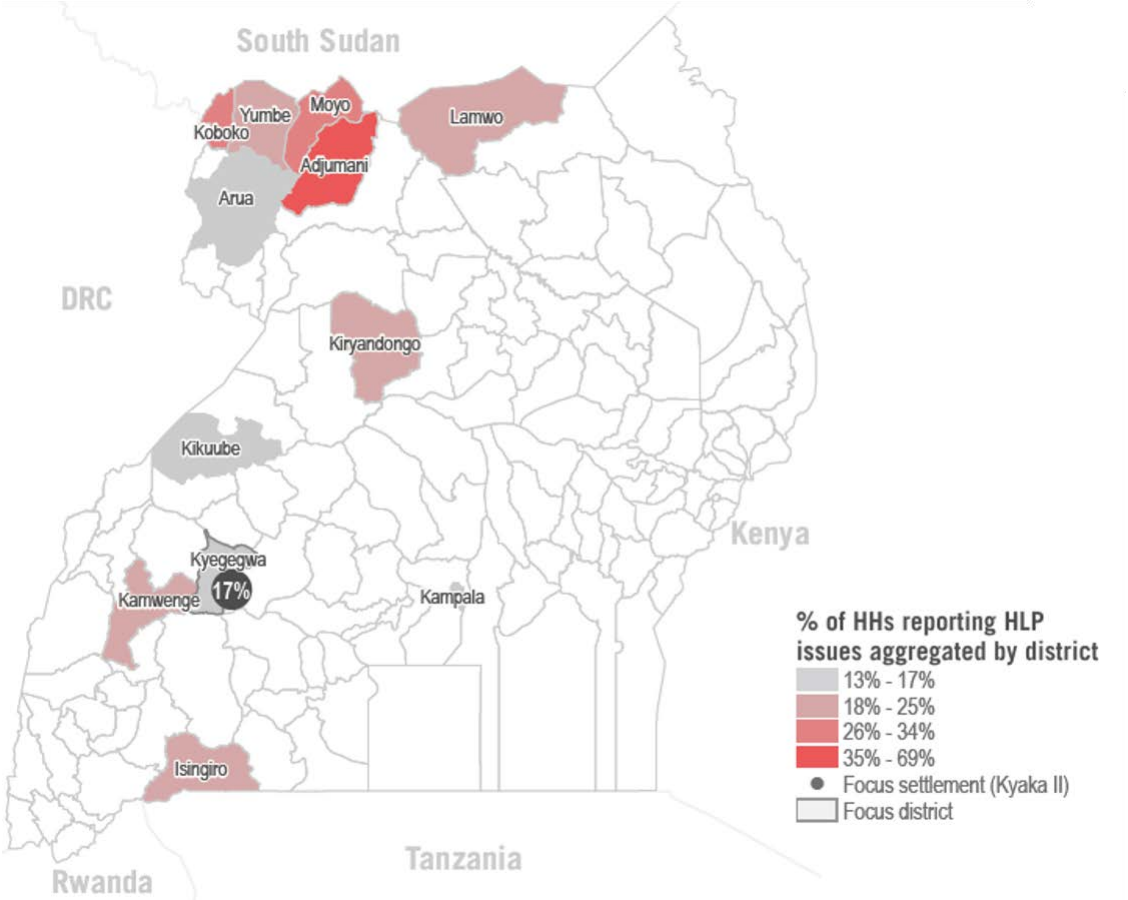
²⁰ STAT compiler, Uganda profile. <https://www.statcompiler.com/en/>

²¹ <https://reliefweb.int/report/uganda/refugee-access-livelihoods-and-housing-land-and-property-rhino-camp-may-2019>

²² UNHCR. (2022). Uganda - Refugee Statistics September 2022 – Kyaka II <https://data.unhcr.org/en/documents/details/96190>

As is evident from Figure 2, the situation of Female Heads of Households (HHS) in Kyaka II reveals that only 17% of respondents provided responses to inquiries about Housing, Land, and Property (HLP) challenges, although the confidence level may be less than 95%. Among the respondents, the primary challenges identified by HHS in terms of HLP include access to agricultural land (50%), access to housing (40%), and acquiring land for building houses (30%). It is noteworthy that the livelihoods of HHS in Kyaka II primarily rely on cash assistance (44%), engagement in agricultural activities (21%), and casual labor (17%). These challenges seem to be recurrent across various refugee communities in Uganda.

Figure 2: Map of refugee settlement: HHS reporting HLP by District, Uganda, 2019



The Uganda National Household Survey (UNHS) for the year 2019/20, which collected information nationwide on individuals with disabilities (excluding refugees)²³, primarily targets those aged 5 years and above (as shown in Table 2). The survey is centered around assessing whether individuals faced any difficulties that hindered their participation in various activities across six domains: vision, hearing, communication, memory/concentration, mobility (walking/climbing), and self-care, as defined by the Washington Group²⁴.

²³ UNHS Survey 2019–2020. “The 2019/20 UNHS collected information on disability for all persons aged 5 years and above based on whether an individual had some form of difficulty to prevent him/her from doing any form of activity in the six domains of seeing, hearing, communicating, remembering/concentrating, walking/climbing and self-care”. p.8.

²⁴ Washington Group standards of classifying disability, persons who answered in each of the six domains as having “a lot a difficulty and cannot do at all” are persons considered as disabled while persons who answered that they had “no difficulty and some difficulties” in are considered as not disabled. UNHS Survey 2019–2020, p. 9

Table 2: Persons with disabilities by age and selected types of disability (%), Uganda (excluded refugee settlement)²⁵

Functional domains	Age		
	5–17 years	18+years	5+
Seeing	0,2	1,8	1,1
Hearing	0,3	0,8	0,6
Communication	0,4	0,4	0,4
Remembering	0,4	1,1	0,8
Walking	0,3	1,6	1,0
Self-care	0,3	1,0	0,7
With at least one disability	1,3	4,4	3,0

The 2019/20 UNHS collected information about children (excluded refugee settlements) aged 6–12 years who reported they had never attended primary school: 2.3% reported that absence from school because they are “disabled.” In the upcoming section, further details will provide a deeper insight into the outcomes acquired from the survey conducted within the three schools of the Kyaka II refugee settlement, focusing specifically on children (5–17 years) live with experience of disability by functional domains.

3. Project & research

3.1 Project presentation

The DiDa-Schools project was firmly founded on a resolute commitment to implementing evidence-driven initiatives. This project's foundation lies in meticulous operational research, grounded in real-world experiences, and is further enhanced by a robust knowledge translation component. The latter serves to establish connections between the research findings and the creation of a valuable and pertinent product for field practitioners.

The overarching objective of the project is to contribute to the generation of dependable data concerning disability within school settings. This data, in turn, guides the decision-making process of stakeholders to enhance interventions in the field, when utilized at the program or local level. If employed at the national level, it will inform policy making.

²⁵ Uganda Bureau of Statistics (UBOS). The Uganda National Household Survey 2019-2020. https://www.ubos.org/wp-content/uploads/publications/09_2021Uganda-National-Survey-Report-2019-2020.pdf, Table 2

This rationale is the driving force behind the organization of the DiDa-Schools project into two distinct phases:

- The research phase, designed to generate evidence and assess the efficacy of the CFM-TV tool.
- The knowledge translation phase, which, informed by the evidence produced, aims to develop, and disseminate media and training materials. These materials are intended to enhance the understanding of key stakeholders regarding when, why, and how to effectively utilize the tool.

By adopting this structured approach, the DiDa-Schools project aspires to align research outcomes with actionable steps, ultimately leading to improved interventions in the field and informed policy decisions.

3.2 Research presentation

a) General objective

The research aims to generate evidence on the suitability of utilizing the CFM-TV set of questions delivered by teachers within schools during emergency situations and prolonged crises, with the purpose of acquiring dependable and updated data, particularly for programmatic utilization.

This research also aims to produce evidence to contribute addressing a pivotal question: can teachers be considered as reliable sources of information, based on their utilization of the predefined answer categories within the instrument? The evaluation seeks to gain insights into the trustworthiness of using teachers' assessments to gather data on children's functional difficulties, while also understanding how these assessments might be affected by different contextual elements.

b) Specific Objectives

The specific objectives, along with their related research questions, are outlined as follows:

(1) Assess comprehensibility of Instructions/Items/Response Options by the Target Respondents

- Do the target respondents comprehend the questions and answers effectively?
- What considerations influence their formulation of responses?
- Do teachers feel any inhibition in sharing information?

(2) Assess Reliability of the CFM-TV

- Does the measure exhibit consistency and stability when repeated under identical conditions by the same teacher among the same learners?
- How well does the CFM-TV compare with other instruments and informants (such as CFM by caregivers and children's CFM self-report)?

- Which factors might influence the reporting process and teachers' credibility, including characteristics of the school, classroom dynamics, individual teacher attributes, or a combination of these factors, among others?

(3) Evaluate the Feasibility and Practicability of the CFM-TV in Real School/ Classroom Situations

- How did the assessment process unfold?
- What strategies did teachers employ to assess children?
- Do teachers envision incorporating the tool into their regular practices?



Definition of comprehensibility and reliability: COSMIN reference²⁶

This research used the definitions provided by **CON**sensus-based Standards for the selection of health **M**asurement **IN**struments (COSMIN)²⁷. COSMIN is an international effort led by researchers with expertise in outcome measurement instruments. The goal is to establish standards and guidelines for evaluating the quality of studies that aim to assess the measurement properties of various tools or scales used in the field of health and healthcare. Comprehensibility aims exploring if the participants understand the items' questionnaire as intended. Reliability refers to the degree of consistency and stability in measurement outcomes. It's about determining whether the scores obtained for participants who haven't undergone any changes remain consistent when measured multiple times (by the same evaluators, we then talk about intra observer reliability; or by different persons, we then talk about inter rater reliability) and under different conditions. This evaluation is vital for establishing the trustworthiness and robustness of measurement instruments, ensuring that the results obtained are dependable and can be used confidently in research, clinical practice, and policy decisions.

This report comprehensively presents the outcomes of the research phase of the DiDa-Schools project. Part 2 outlines the methodology adopted. Subsequently, Part 3 delves into the research results, examining both the reliability of the tool and any unforeseen effects stemming from its implementation. Lastly, Part 4 discusses the findings and identifies potential avenues for the operational phase of the project (the knowledge translation phase) and suggests directions for future research.

²⁶ <https://www.cosmin.nl/>

²⁷ Mokkink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, Bouter LM, de Vet HC. [The COSMIN study reached international consensus on taxonomy, terminology, and definitions of measurement properties for health-related patient-reported outcomes](#). J Clin Epidemiol. 2010 Jul;63(7):737-45. doi: 10.1016/j.jclinepi.2010.02.006

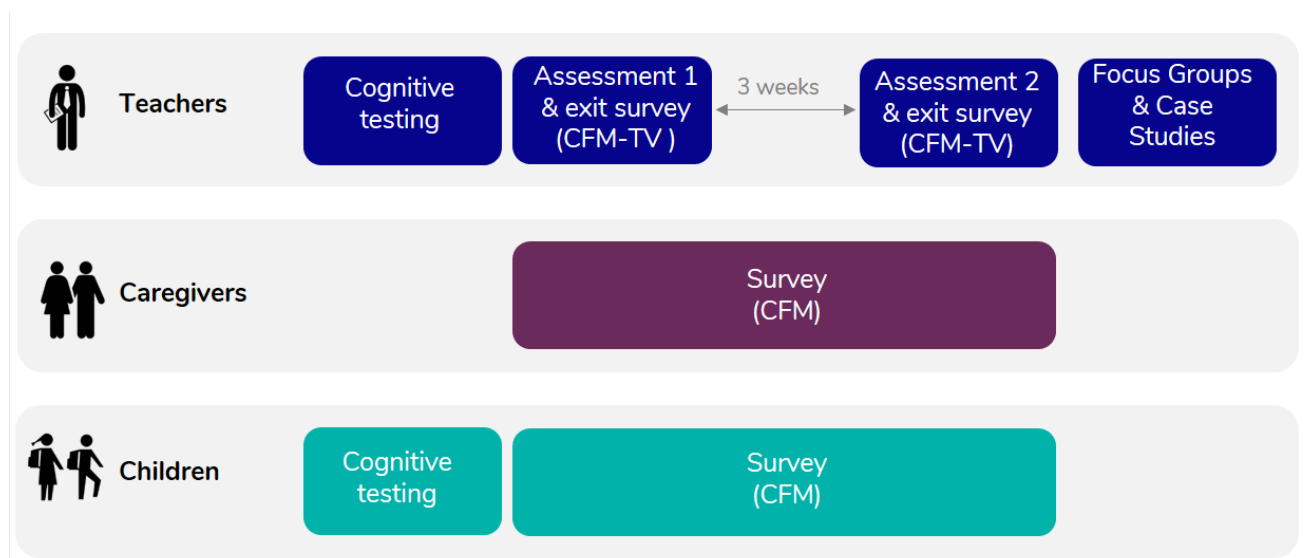
Part 2 – Methodology

1. Design of the study

This research employs a mixed-methods approach encompassing both quantitative and qualitative data collection methods (Figure 3). The process commenced with cognitive interviews with teachers, followed by interviews with children aged over 12 years. These interviews aimed to assess how comprehensive the instructions, items, and response options were for both the CFM-TV ([Appendix 1](#)) and the CFM ([Appendix 2](#)).

Subsequently, quantitative surveys were administered to three distinct groups to explore the intra and inter reliability of the CFM-TV. These groups comprised of teachers (with two rounds of data collection spaced three weeks apart, each round encompassing assessments for all learners along with an exit survey), caregivers, and learners themselves aged over 12 years. Finally, 3 focus group discussions (FGDs) ([Appendix 3](#)) and five case studies ([Appendix 4](#)) were conducted with the same teachers to evaluate the practical feasibility of implementing the CFM-TV in authentic school settings.

Figure 3: Presentation of the research methodology by target populations



>< Why 3 weeks of interval?

A 2-week interval is a commonly recommended timeframe in test-retest evaluations. The objective in this case was to strike a suitable balance: not too lengthy to prevent changes in the children's functional difficulty status due to incidents or potential progress in specific domains, yet not too short to mitigate any potential recall bias²⁸.

²⁸ [COSMIN Study Design checklist for Patient-reported outcome measurement instruments](#). 2019.

2. Localization of the study

Kyaka II was selected as the most appropriate location for the study due to a number of factors. Firstly, its relatively short distance from Kampala meant that associated travel costs would be lower. Secondly, the existing presence and recognition of Humanity & Inclusion²⁹ (HI) by local education stakeholders in Kyaka II would provide a logistical advantage. Additionally, recommendations from the Education in Emergency Sector Working Group (EiESWG) played a role in this selection process. Kyaka II emerged as the more operationally feasible, accessible, and readily coordinated option.

3. Sampling procedures

3.1 Cognitive interviews

Out of the 11 schools registered in Kyaka II, two schools were chosen at random for the cognitive interviews phase: Kakoni Primary School and Sweswe Primary School. The selection process for participants involved random sampling of teachers and learners aged over 12 years from these schools.

3.2 Intra-observer study and Qualitative interviews

a) Intra-observer study

Two-stage cluster sampling approach was employed to ensure a statistically representative sample of schools and classes. The procedure encompassed the following steps:

- **Selection of Schools in the Chosen Settlement:** Among the 11 registered primary schools in Kyaka II, a total of 3 schools were selected through simple random sampling. These schools were Bujubuli Primary School, Bukere Primary School, and Mukondo Primary School. Additionally, two extra schools were chosen as replacements in case the initially selected schools declined to participate.
- **Selection of Streams in the Selected Schools:** In the Ugandan education system, primary education consists of seven grades (P1-P7), each comprising one or more smaller units known as classes or streams. For each of the 3 schools, one class was chosen from each grade (P1 to P7) through simple random selection. If a grade had only one stream, it was automatically selected. However, if a grade had multiple streams one stream was randomly chosen using a table of random numbers. Consequently, a total of 7 streams were targeted across all grades for each school, resulting in a total of 21 streams being targeted across 3 schools.

²⁹ Humanity & inclusion (HI) has been implementing inclusive education projects in some refugee settlements to ensure equal access to quality education for children with disabilities as a member of the Uganda Education Consortium and in partnership with MoES.

- **Identification of Teachers and Children from the Selected Streams:** The primary teachers from each selected stream were automatically requested to participate in the study. As a result, the sample size for the intra-observer survey (see 3.3) consisted of 21 teachers. Each teacher was tasked with assessing the functional difficulties of all learners aged between 5 and 17 years within their respective classes.

b) Qualitative interviews

The same group of 21 teachers were also invited to participate in FGD. From this pool, five teachers were purposefully selected to undergo more in-depth interviews and provide case studies based on their experience. These selections were made while considering factors such as school, grade, gender, and their input during FGD.

3.3 Inter-rater studies

For the inter-rater studies, a distinct approach was taken:

- **Selection of School for Inter-Rater Survey of CFM-TV:** Among the three schools chosen for the intra-observer survey of CFM-TV, one school, Bukere Primary School, was purposely selected. This selection primarily considered the enrollment rate and the necessary sample size for this specific component.
- **Selection of Children for Comparison:** From the list of children aged 5-17 years assessed by the 21 teachers, a subset of children was randomly chosen for the purpose of comparing the reporting of teachers and caregivers. This involved selecting a sample of children and subsequently interviewing their respective caregivers. The intention was to enroll a minimum of 500 caregivers from the chosen school. Caregivers were primarily mothers or other primary caregivers (such as fathers or grandparents).
- **Self-Reporting by Children/Adolescents Aged 12-17 Years:** Among these children and adolescents whose caregivers (500) were selected, a subset was further selected based on their age (12-17) to participate in self-reporting of their functional difficulties. This group was estimated to be approximately 250 children. In instances where non-participation occurred, buffers were in place to replace the initially sampled participants.

4. Data collection

4.1 Data Collection Duration and Organization

The research spanned from November 2022 to April 2023, during which various data collection activities were organized. Due to the nature of working in emergency settings, there were certain delays, in this case, partly attributed to an Ebola outbreak before Christmas in 2022 and influenced by the school calendar, which began the first semester on February 6, 2023.

The data collection process was structured into multiple sequences as follows:

- **Cognitive interviews with Teachers:** This phase occurred between November 30th and December 2nd, 2022.
- **Two-Days Teachers' Training:** Conducted on March 4th and 5th, 2023, this training also served as an opportunity to gather biodata from the teachers and initiate the process of entering the biodata of the children registered in the 21 selected classes.
- **Cognitive interviews with Children:** Spanning the dates of March 7th, 9th, and 13th, 2023, cognitive interviews with children were carried out.
- **Child Assessment by Teachers – Session 1:** Carried out from March 8th to 12th, 2023, the first session of child assessment by teachers took place.
- **Child Assessment by Teachers – Session 2:** The second session of children assessment by teachers transpired three weeks later, spanning from April 4th to 7th, 2023.
- **Caregivers Interview:** This phase extended over a period of 12 days as responses were obtained in phases. This time frame coincided with a cultivation period, during which the majority of caregivers were occupied with farming activities in the fields.
- **Child Self-Report:** The child self-reporting phase happened between the 5th and the 13th of April. For some children, the interviews were rescheduled to allow caregivers to provide written consent before the child's interview.
- **Focus Group Discussions (FGD):** Three FGDs (with 6 or 7 teachers from sampled 3 schools each) were conducted on April 11th, 2023.
- **Case Studies:** In-depth interviews with selected teachers took place in the first week of May.

Throughout this period, these sequential activities were meticulously organized to facilitate the efficient collection of data in accordance with the project's objectives.

4.2 Languages and Translation Process

The cognitive interviews guide and questionnaires, including the CFM-TV used by teachers, were initially exclusively available in English.

For caregivers and children, including the CFM, the questionnaires were translated in three languages: Swahili, Kinyabwisha and Runyankoré. The Forward-Backward Translation method was employed to ensure accurate translations. The process involved multiple steps:

- **Initial Translation:** An independent translator for each language (from the National Curriculum Development Centre of Uganda) translated the CFM into Swahili, Kinyabwisha and Runyankoré.
- **Back Translation:** Another independent translator, also from the same Center, translated the Swahili, Kinyabwisha and Runyankoré versions back into English.
- **Comparison and Consensus:** Translators and the project Research Assistants compared the original English version with the translated versions to identify any discrepancies. A consensus was achieved through discussions to finalize the translations.

In situations where on-the-spot translation was necessary, particularly in Rutoroo language, it was facilitated to ensure accurate communication and understanding during the data collection process. This comprehensive translation process aimed to uphold the integrity of the research by ensuring that participants could access and understand the content in their preferred languages.

4.3 Data Collection Team

The research team consisted of three Field Research Coordinators and three Research Assistants, all of whom underwent extensive training³⁰ to ensure their proficiency in various aspects of the research process. These trainings, delivered in a phased manner, equipped them with a deep understanding of the research objectives, their specific roles and responsibilities, mastery of diverse data collection tools and techniques, the implementation of consent and assent procedures, quality control measures, and an awareness of safeguarding principles.

The Field Research Coordinators played a pivotal role in overseeing the smooth execution of field activities. Their responsibilities encompassed communication with schools, respondents, and the research management team. They provided support to teachers during the two-round assessments, conducted interviews with caregivers and children, and facilitated qualitative interviews such as cognitive interviews and FGDs.

³⁰ Three trainings were provided to the research team: a first focusing on practical skills on how to conduct cognitive interviews with teachers and be able to transcribe interview results appropriately (4 days, only with RFCs)); a second training focusing on the CFM-TV questionnaire, practical data collection organization and cognitive interviews with children (4 days, with RFCs and RAs), and a last training on how to FGD, master the FGD guide and practice note-taking (1 day, only with RFCs).

Additionally, these coordinators were well-versed in the local languages spoken within the settlement, ensuring effective communication.

The Research Assistants were enlisted to aid in the quantitative surveys of the study. Collaborating closely with the Field Research Coordinators, they offered assistance during the two-round assessments conducted by teachers, interviewed caregivers and children, and contributed to various aspects of the data collection process.

The combined efforts of the Field Research Coordinators and Research Assistants were instrumental in the successful implementation of the research activities, guaranteeing the collection of reliable and meaningful data.

4.4 Quality check assurance and control

Data collection was facilitated through Survey CTO, a digital platform which underwent thorough pretesting to ensure its functionality. The questionnaires integrated skip patterns, logical structures, calculations, and constraints, collectively working to minimize errors and instances of non-response to mandatory questions.

To maintain quality standards, a dedicated team was stationed at each of the three schools, when the 21 teachers were responding to the CFM-TV. This team consisted of one Field Research Coordinator and one Research Assistant per school. Their primary role was to offer immediate assistance to teachers who encountered challenges with tablet usage or had questions during the data collection process.

Within each school, the Field Research Coordinator conducted daily reviews of all data entries, identifying inconsistencies or anomalies in the data input. Once resolved, the data was submitted to the Survey CTO server. Prior to online submission, any issues were addressed to ensure the accuracy and integrity of the data.

Additionally, a comprehensive review of the overall data was conducted daily by the education research specialist to further verify data quality.

The research team also held daily debriefing sessions, led by the education research specialist. These sessions served as platforms for the team to share progress updates, discuss challenges, and collaboratively devise solutions. Furthermore, the debriefing sessions facilitated the revision of the work plan, ensuring that the research remained on track and aligned with objectives.

This meticulous quality assurance and control framework was integral to maintaining the reliability and validity of the collected data throughout the research process.

5. Data analysis

5.1 Qualitative components

The qualitative components of the research involved various types of interviews, which were meticulously documented and analyzed to extract meaningful insights.

Field Research Coordinators played a crucial role in this process. All qualitative interviews, whether cognitive interviews or FGD, were recorded, and subsequently transcribed in English. Field Research Coordinators were responsible for this task, ensuring that the content of the interviews was accurately captured in written form. For FGDs, also notes were taken by a designated note taker during the discussions. These notes were taken exclusively in English to ensure that every aspect of the discussion was captured without omission. This approach aimed to preserve the richness of the discussions and the participants' contributions.

Following the transcription and note-taking processes, an in-depth analysis was conducted. The analysis was structured both by individual items and overarching themes. This analytical approach aimed to systematically identify challenges, patterns of repetition, and instances of divergence within the various interviews.

By employing this qualitative methodology, the research aimed to derive meaningful insights from the collected data, shedding light on the experiences, perspectives, and nuances of the participants.

5.2 Quantitative components

The quantitative aspects of the research encompassed a detailed analysis of the collected data using various statistical methods. Descriptive analysis, testing intra-observer and inter-rater and reliability, and assessing agreement between different informants were among the key components.

5.2.1 Descriptive analysis

Descriptive analysis was conducted to describe the socio-demographic characteristics of the individuals, namely teachers, children, and caregivers. Frequency distributions and cross-tabulations were used to provide an overview of the data. Significance testing was applied to identify any statistically significant associations or patterns within the data.

5.2.2 Testing intra-observer reliability of the CFM-TV: comparison of 2 teachers' assessments performed 3 weeks Apart.

The analysis of Intraclass Correlation Coefficient (ICC) was a two-phase process:

- In the first phase, intra-observer variability referred to differences between observations (Teacher-CFM-TV questionnaire) for the same children and by the same teacher (Session 1 and Session 2) in the three schools (Bukere, Bujubuli, and Mukondo). Correlation and agreement measures for Session 1 and Session 2 on the disability status were evaluated using overall and domain-specific percent agreement and Cohen's Kappa statistics.

- In the second phase, ICC measures were reviewed when considering teachers' responses in Session 1 and Session 2 in three subgroups, focusing on Bukere Primary Schools. ICC measures were calculated for: (1) learners assessed by teachers twice (2) learners assessed by teachers twice AND caregivers, and (3) learners assessed by teachers twice AND caregivers AND self-reporting.

The ICC values less than 0.5, between 0.5 and 0.75, between 0.75 and 0.9, and greater than 0.90 will be indicative of poor, moderate, good, and excellent reliability, respectively.³¹

➤< Defining Children's Disability Status: Methodology and Criteria •

To determine the disability status of children, distinguishing between those with disabilities and those without, responses from both the CFM-TV and CFM questionnaires were utilized. For each domain, a preliminary variable was created to indicate the presence or absence of difficulties. This approach allowed for the categorization of children as either having a disability or not, facilitating further analyses based on specific domains of difficulty.

The same criteria were applied to both questionnaires. A child was considered to have a functional difficulty if they reported experiencing 'a lot of difficulties' or 'cannot do it at all' (or 'daily' for anxiety and depression) in at least one domain. This report presents the percentage of children aged 5-17 years with functional difficulties³².

5.2.3 Testing Inter-Rater Reliability: A Comparison of Teachers' and Caregivers' Answers

To test inter-rater reliability, the study collected data from two different informants, namely teachers and caregivers, who provided information about the same child. The purpose was to compare the data obtained from these two sources to determine the level of agreement or consistency between them. This comparison allowed for an assessment of how closely teachers' assessments matched the reports from caregivers (proxy respondents). This approach is crucial for evaluating the reliability of the CFM responses because it helps gauge the extent to which teachers and caregivers perceive a child's functional difficulties similarly or differently. The correlation between teachers' and caregivers' responses regarding a child's disability status was measured using both percentage agreement and Cohen's Kappa statistics. Additionally, cross-tabulations were employed to identify areas of inconsistency and disagreements between teachers and caregivers across the various functional domains.

³¹ Koo TK, Li MY. A Guideline of Selecting and Reporting Intraclass Correlation Coefficients for Reliability Research. *J Chiropr Med.* 2016 Jun; 15 (2):155-63. doi: 10.1016/j.jcm.2016.02.012. Epub 2016 Mar 31. Erratum in: *J Chiropr Med.* 2017 Dec; 16 (4):346. PMID: 27330520; PMCID: PMC4913118.

³² The research team has deliberately chosen to avoid using the terms prevalence and proportions to avoid any misunderstanding regarding the statistical significance of the figures presented.

5.2.4 Exploring Inter-Rater Reliability: Comparing Teachers' and Child Self-Reporting Response

To measure the inter-rater reliability between teachers' assessments and child self-reports, a crucial step was the matching of information collected from the proxy informant (here the teachers) and the self-reporting by the child themselves (aged 12–17 years). To assess correlation and agreement between combined teachers and children with functional difficulties, overall and domain-specific percent agreement and Cohen's Kappa statistics were calculated. These measures aimed to quantify the extent of agreement between teacher and child responses.

All statistical analyses were carried out using SPSS version 29, ensuring rigorous assessment of reliability, agreement, and variability in the collected data.

6. Ethical considerations

The comprehensive ethical approach adopted aimed to ensure that the research respects the rights and well-being of the participants while complying with various regulatory and organizational requirements. The research was aligned with both international ethical norms and the internal ethical standards of the organization (HI)³³. This underscores the commitment to conducting ethical research across various levels.

6.1 Obtain Ethics Approvals & Stakeholders' Authorizations

The research process involved obtaining ethical approval from relevant local bodies, including the Uganda National Council of Science and Technology (UNCST) and the Mildmay Research Ethical Committee (REC). This demonstrates a commitment to respecting the legal and regulatory frameworks of the host country.

In addition to ethical approvals, the research also secured formal clearances from relevant authorities, such as the Office of the Prime Minister (OPM) and the United Nations High Commissioner for Refugees (UNHCR), particularly from the child protection office.

This showcases a comprehensive approach to addressing administrative requirements. Overall, this description highlights a rigorous ethical framework that ensures the research was conducted responsibly and transparently, considering both international and local standards as well as obtaining necessary approvals and clearances from relevant authorities.

³³ Studies and research at Handicap International: Promoting ethical data management (2015); Code of Conduct; prevention of abuse and safeguarding (2018); Protection of beneficiaries from Sexual Exploitation, Abuse and Harassment (2021); Child Protection Policy (2021).

6.2 Define and apply clear procedures to obtain subjects' free and informed consent

To achieve full disclosure and freedom to participate, all participants were provided with comprehensive information about the research, without any pressure or coercion from the research team. This allowed them to make an informed decision about their participation, highlighting the principle of informed consent.

Participation in this research was entirely voluntary. During the information sharing, emphasis was placed on explaining the voluntary nature of participation, indicating that individuals were free to choose whether to take part in the research or not. This aligns with ethical principles that prohibit any form of coercion or inducement.

Consent was collected for all adults participants (teachers and caregivers). For participants aged 12-17, a multi-step process was employed to ensure consent was obtained from both the child and the caregivers. This approach recognizes the importance of involving both caregivers and children in the decision-making process. Attempts to locate Caregivers were made to contact primary caregivers when children were to be directly interviewed. Multiple attempts were made within a reasonable timeframe to ensure that caregivers had the opportunity to provide their consent.

Compensation and transport funds were offered to all participants, including teachers, caregivers, and children aged 12-17 participating in cognitive interviews, to compensate for their time, and refund transport costs. This demonstrates a commitment to recognizing and valuing participants' contribution to the research. Overall, these procedures underscore a well-structured and ethical approach to obtaining consent and ensuring that participants are fully aware of the research's purpose and their rights before making an informed decision to participate.

6.3 Ensure a person-centered approach

The person-centered approach focuses on respecting the cultural context, language diversity, and the needs of different participants, especially children.

Cultural sensitivity and language diversity practices were implemented by translating data collection tools into multiple languages and recruiting staff who were proficient in various languages to demonstrate an awareness of, and respect for, the cultural and linguistic diversity of the participants. This approach helped ensure that participants were able to understand and engage with the research materials in their preferred language.

A child-centered approach was adopted. The staff trainings included dedicated sessions on how to conduct child-friendly interviews, based on appropriate wording, and effective communication techniques, reflecting a deep understanding of the unique needs, capabilities, and potential challenges associated with interviewing children. It underscores the dedication to conducting interviews that are comfortable and conducive to honest responses from children. For cognitive interviews with children, the decision to divide the questionnaire into two sections to accommodate the length of the CFM questionnaire and then the duration of the interview was also a practical and thoughtful approach.

Finally, research agenda considerations were made by strategically planning the data collection agenda to avoid interfering with children's learning time, prioritizing non-intrusive data collection times (before or after lessons, weekends). This was a sign of respect for their educational needs.

6.4 Ensuring the security of personal and sensitive data

To ensure confidentiality during data collection, private interviews were conducted face-to-face which reflects HI's commitment to maintaining confidentiality and creating a safe environment for participants to share their responses openly. Avoiding third-party presence required separating caregivers from children during self-report interviews, which was a strategic step to prevent potential bias or influence in the child's responses.

HI carried out mobile data collection to achieve its goal of minimizing paper usage and maximizing electronic entry.

Secure storage of devices was of vital importance, and included keeping tablets, PCs, and other data collection devices in a locked cupboard further ensures the protection of collected data against unauthorized access.

The secure storage of paper documents (as consents) was also important for ensuring the security of sensitive and personal data. Submission sheets, notes from interviews, and other paper documents were stored in a locked cupboard to enhance the physical security of sensitive information.

Finally, working towards data anonymization during processing and analysis required removing personal identifiers and using unique IDs for data anonymization, which helped protect the privacy of participants during the data analysis phase.

6.5 Ensuring the expertise of the teams involved

In the Context of Refugee Settlements and Vulnerable Populations, recognizing the context of refugee settlements and the vulnerability of the populations involved demonstrates a deep understanding of the ethical considerations in such research settings.

Given the sensitive nature of the data collected, key messages related to confidentiality, privacy, and security were included in trainings to all team members and is crucial. This training helped them understand the importance of safeguarding respondents' information.

Acknowledging the unique challenges of interviewing young children, time was dedicated on how to collect quality data while minimizing any potential harm. Young children may require different communication approaches to ensure their comfort and understanding.

Finally, the use of role-playing and open discussion during training sessions were an effective way to prepare team members for real-world scenarios. Role-playing allowed them to practice sensitive interactions and gain confidence in handling potentially difficult situations.

Part 3 – Findings

1. Insight in samples

1.1 Teachers

a) Teachers recruited for cognitive interviews

Nineteen teachers from two primary schools, Sweswe and Kakoni, were selected and interviewed for cognitive testing. The key characteristics of these teachers are as follows:

- Gender Distribution: Teachers are mainly female (60%).
- Age: The average age of the teachers was in average 31,7 +/- 3,7 years-old.
- Teaching Experience: On average, teachers had 9.1 years of teaching experience. The range of teaching experience varies, with some teachers having as little as 3 years and others as much as 13 years of experience.

b) Teachers recruited to assess their learners twice

Twenty-one teachers were recruited in three schools (Bukere, Bujubuli, Mukondo) and trained to complete the CFM-TV for all children in their classes. The key characteristics of these teachers are as follows:

- Gender Distribution: Teachers are mainly male (71,5%).
- Age: The average age of the teachers was 32.9 years. The age range varied, with teachers falling within an average of 6.4 years of the mean age.
- Disability and Family Status: No teacher declared having any disability, as assessed by the WG Short Set. All teachers declared having children, indicating a connection to family life.
- Teaching Experience: On average, teachers had 11 years of teaching experience. The range of teaching experience was broad, spanning from 5 years to 37 years.
- Employment Background: A significant majority (71.4%) of teachers were employed by non-governmental organizations (NGOs). A smaller percentage (28.6%) were paid by the government. This indicates a notable NGO involvement in the education sector within the schools.
- Educational Qualification: All teachers were trained, with 71.4% holding a teaching certificate and 28.6% holding a diploma from teachers training colleges.
- Time with Learners: All teachers reported spending the entire school week (5 days) with their learners.
- Classroom Size and Grade Distribution: The average number of learners registered was approximately 107.4 students per classroom. The classroom sizes varied, ranging from 34 to 168 learners. Notably, the highest number of pupils per class was in the lower grade (an average of 131 learners in P1), and this number gradually decreased as grade levels increased, reaching an average of 88 students in P7.

1.2 Learners assessed

a) Insight in Session 1

The table 3 shows sociodemographic information amongst learners assessed by teachers during the session 1. Children were mainly refugee (75,2% - mainly from DRC). Boys were slightly more represented than girls (with respectively 53,1% and 46,9%). 56,6% were over 12 years old. Teachers evaluate their relationship with their students with an average score of 6,5 +/- 1,8.

Table 3: Sociodemographic data among learners assessed by teachers (Session 1; N=2023)

Characteristics	Frequency (%)
Gender	
Female	949 (46,9%)
Male	1074 (53,1%)
Age	
=<8 years	352 (17,4%)
9-11 years	525 (26,0%)
12-14 years	747 (36,9%)
15-17 years	399 (19,7%)
Nationality	
National	502 (24,8%)
Refugee	1521 (75,2%)
School	
Bujubuli	604 (29,9%)
Bukere	756 (37,4%)
Mukondo	663 (32,8%)
Childs' Class	
P1	385 (19,0%)
P2	351 (17,4%)
P3	327 (16,2%)
P4	266 (13,1%)
P5	297 (14,7%)
P6	229 (11,3%)
P7	168 (8,3%)
Teacher-Learner relationship index (Scale 1 to 10)	6,5 +/- 1,8

b) Comparing sessions 1 and 2

Table 4 displays the number of learners assessed by teachers during Session 1 (S1) and Session 2 (S2), by school. This table also shows the total number of students assessed in both sessions by the same teacher (1931 students). Further analyses to explore inter-observer reliability will therefore be based on this sample.

Table 4: Comparison of Learner Assessments between Session 1 and Session 2

Schools	Session 1 N=2023	Session 2 N=2037	Number of children assessed in both sessions N=1926
Bujubuli	604 (30%)	592 (29%)	575 (30%)
Bukere	756 (37%)	782 (38%)	715 (37%)
Mukondo	663 (33%)	663 (33%)	636 (33%)

1.3 Caregivers who answered the CFM

Table 5 presents sociodemographic information about 485 caregivers who were interviewed. Most respondents were female (63.9%), and more than half were the mothers of the children (52.6%). Over 60% of caregivers were aged between 30 and 50 years old, and 22.9% of participants were caregivers with disabilities (as determined by the WG Short Set). Kiswahili was the most commonly spoken language (35.9%), followed by Runyankore (32.6%) and Kinyabwisha (23.5%).

Table 5: Sociodemographic information of caregivers (N=485)

Characteristics	Frequency (%)
Caregivers Gender	
Female	310 (63,9%)
Male	175 (36,1%)
Relationship	
Mother	255 (52,6%)
Father	143 (29,5%)
Sister/Brother	30 (6,2%)
Uncle-Aunt-Niece-Nephew	20 (4,1%)
Grand parent	28 (5,8%)
Others: Foster parent, step, adopted	7 (1,4%)
Age group (caregivers)	
< 30 years	97 (20,0%)
31-40 years	165 (34,0%)
41 to 50 years	133 (27,4%)
51-60 years	53 (10,9%)
60 Plus	37 (7,6%)
Disability status (WG short set questionnaire)	
Caregivers with disability	111 (22,9%)
Caregivers without disability	374 (77,1%)
Live together	
No	2 (0,4%)
Yes	483 (99,6%)
Number of siblings	
0-2 siblings	73 (15,1%)
3-5 siblings	222 (45,8%)
6-7 years	121 (24,9%)
8+	69 (14,2%)
Language	
English	39 (8,0%)
Kinyabwisha	114 (23,5%)
Kiswahili	174 (35,9%)
Runyankore	158(32,6%)

1.4 Children Aged 12-17 Who Completed the CFM Questionnaire

a) For cognitive interviews

Twenty-eight children were recruited from two schools (Sweswe and Kanoki). The children had an average age of 13.8 +/- 1.8 years, with 46.4% being girls and 53.6% boys. The interviews were conducted in Kiswahili and Runyankoré.

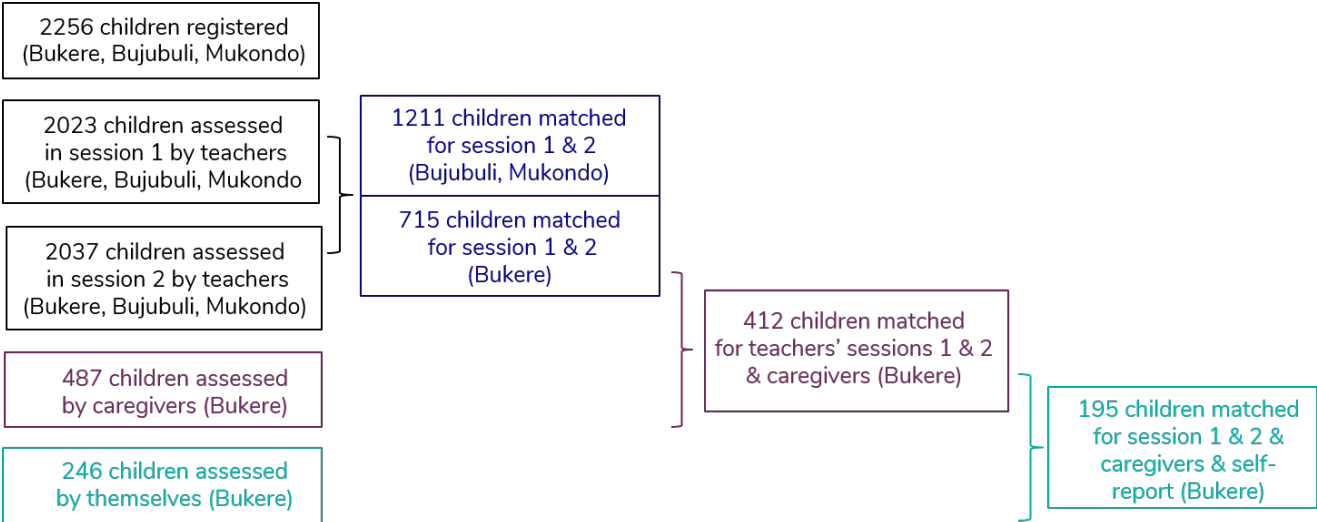
b) For self-reporting

A total of 246 children were interviewed to answer the CFM full version for themselves. They had an average age of 13.9 +/- 1.5 years. The most spoken language among the participants was Kiswahili (44.2%), followed by English (27.7%) and Kinyabwisha (26.0%).

1.5 Sample flowchart

One of the challenges of this research was to match the information collected for the same child by various informants (teacher session 1, teacher session 2, caregiver, and self-reporting for some of them if aged 12-17 years), meaning gathering four reporting for 1 child. The figure 4 shows the sample sizes at each step of the research, after cleaning and matching. Several reasons may explain the loss of sample size (around 10% for teachers, 15% for caregivers, and 20% for children) - such as a sampling procedure carried out at the start of the project, fluctuating numbers of learners in the classes with children leaving the school (if the family is relocated for example) and others registering to school during the academic year, and matching difficulties.

Figure 4: Sample flowchart



2. Comprehensibility of the CFM-TV by teachers

2.1 Items and answers categories

Initially, the study assessed if teachers comprehended the questions in the CFM-TV ([Appendix 1](#)). Teachers' feedback on the questionnaire was generally positive, with questions described as "user-friendly" and relevant to their work environment.

"I felt comfortable because the questions were familiar to me and aligned with my duties." Male, Cognitive Interview.

However, a disparity emerged between direct questions about difficulties (with most teachers claiming they faced none or few difficulties) and more open-ended questions. Key points per domain are summarized below:

Seeing, Hearing, Mobility: No major difficulties were reported in these domains. Assistive devices were mentioned, with teachers able to identify glasses, magnifiers, crutches, sticks, etc. However, hearing aids posed more challenges. It was hard for them to conceive that an assistive device might not always resolve the issue and that the difficulty could persist.

"I couldn't imagine that someone wearing glasses could complain about not seeing well." Male, Case Studies.

Communication: All teachers understood the link with speech difficulties. Yet, when providing examples, five teachers mentioned issues unrelated to functional limitations, such as language barriers and children with low tone in their speech.

Learning: Teachers emphasized children's ability to acquire knowledge, new skills, and values, primarily in school settings (indoor or outdoor, like gardening). Learners' performance in school was the basis for evaluation.

"As I read the question, I compared the child's performance with other learners in the class." Female, Cognitive Interview.

Remembering: Explanations for this dimension diverged from UNICEF's guidance. While the official definition centers on long-term events rather than memorization, teachers focused on learners' ability to recall lessons from the previous day. However, it is important to note that teachers' understanding was consistent—they all referred to short-term memory.

Concentration: Symptoms of lack of concentration were clear to teachers (e.g., fidgeting, talking during lessons, shouting). However, examples used to illustrate their explanations sometimes lacked relevance. One teacher cited a lesson that extended into break time.

Changing Routine: Coping with or adapting to change was understood, although two teachers claimed not to understand the question. Practical examples included changing seats or altering lesson agendas.

Controlling Behavior: Teachers associated this dimension with discipline and avoiding emotional impulsiveness. While the understanding was adequate, evaluating a child's behavior and providing an answer posed challenges for some teachers.

"It's difficult to judge someone's behavior. Children display various behaviors of different intensities that change frequently. I answered based on my understanding, not the child's behavior." Female, Cognitive Interview.

Making Friends: Teachers did not encounter difficulties explaining this question. Isolation was tied to behaviors like selfishness or unfairness. Interestingly, some teachers found the inclusion of this question surprising, as making friends was not considered part of a teacher's responsibility or observation.

Affect: Half of the teachers struggled with the concepts of anxiety and depression in this domain. Anxiety was unfamiliar, so they relied on the other terms in the question (nervous and worried) to respond. Distinguishing between anxious, nervous, worried, and very sad or depressed was often unclear, leading to confusion. These nuances raise questions about reliability for this domain (possibly involving guesswork).

"I didn't quite understand what this question was asking. It really bothered me, and that's why I took a long time to answer it." Male, Cognitive Interview.

The answer options did not pose problems. The gradient was accepted, though it required contemplation to select the appropriate response.

"No difficulty with wording, but selecting the best option was challenging since it demanded a lot of thought." Male, Cognitive Interview.

2.2 Learners with Disabilities or Learners with Difficulties

One important consideration to note is that observed functional difficulties do not necessarily equate to a disability or a health condition. Certain difficulties might be associated with other socio-economic factors. For instance, hunger was mentioned as a factor limiting the ability to "learn and perform well or engage in games freely." This aspect was revisited in subsequent case studies, where examples were linked to situations of extreme poverty and an unsupportive family environment.

Use of this information to modify the Two-Days Training Schedule one-day training

The insights gathered from cognitive interviews sessions with teachers were integrated into the two-days training curriculum designed for teachers tasked with assessing their students. This facilitated the identification of areas that needed further clarification or more vivid and specific examples to be shared.

3. Intra-observer reliability of the CFM-TV

To establish the reliability of the CFM-TV questionnaire, assessed using the test-retest method (sessions 1 and 2), 21 respondent teachers from three schools were involved. These teachers share a common educational environment, working in primary education, primarily dedicated to children from the refugee settlement of Kyaka II. It is noteworthy to remind that among these three schools, it was at the Bukere school that parents and children responded to the CFM questionnaire. In the following section, descriptive results obtained from the CFM-TV questionnaire are presented, starting with the Bukere school, and then expanding the analysis to all three schools.

3.1 Percentage of children with functional difficulty at Bukere Primary School

In this research, data collection involved multiple informants for the same child.

As a reminder, at Bukere primary school, the learners were organized into three groups:

- Group 1: All learners evaluated twice (Session 1 &2) by the teachers.
- Group 2: Learners evaluated by both teachers (Session 1 &2) and caregivers.
- Group 3: Learners assessed by teachers (Session 1 &2), parents, and themselves.

This setup allowed for the analysis of how teacher assessments compared within these three groups of learners.

a) Group 1. Percentage of children with functional difficulty, assessed by teachers in session 1 and 2

Table 6 presents the percentage of children with functional difficulty in Bukere School in session 1 and session 2. Among the 715 children assessed by the same teachers during sessions 1 and 2, 129 children (18%) were identified as having one or more functional difficulties during session 1. In session 2, this number decreased to 118, which is 16.5%. Despite the small difference between the two sessions, it is worth noting that 11 children transitioned out of the category of children considered by teachers to have functional difficulties. It will be interesting to see if teachers from other schools have also adjusted their assessments downwards.

Table 6: Percentage of children with functional difficulty in Bukere School (session 1 and session2)

School	Session 1 Frequency (%)	Session 2 Frequency (%)
Bukere primary school (N=715)		
Children without disability	586 (82,0%)	597 (83,5%)
Children with disability	129 (18,0%)	118 (16,5%)

b) Group 2. Percentage of children with functional difficulty, assessed by teachers among learners assessed by teachers in session 1 and session 2 and caregivers

In the sample of learners assessed by teachers twice and caregivers, the mean age of the children (412 in total) is 11.36 years (± 3.108). The Figure 5 below illustrates the distribution of children's ages within the range of 5 to 17 years.

Figure 5: Number of Children (N=412) by Age

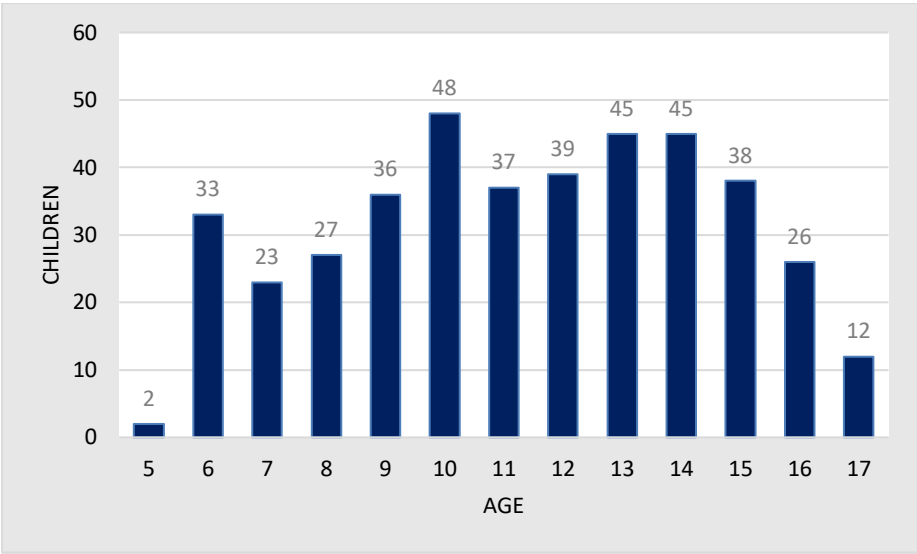


Table 7 reveals that the percentage of children with functional difficulty identified by the teachers is relatively higher for children assessed by teachers twice and caregivers (group 2) than those assessed only by teachers twice (group 1), with a more pronounced difference in S1 (respectively 21.8% vs. 18.0%). However, the percentage of children with functional difficulty measured during the first session, which involved the entire population (712 children), was 18%. In the second session, for the sample of 412 children, the percentage was also 18%. This indicates a consistency between the two sessions, suggesting stability. The next section will further examine the questionnaire's reliability using the ICC (Intraclass Correlation Coefficient).

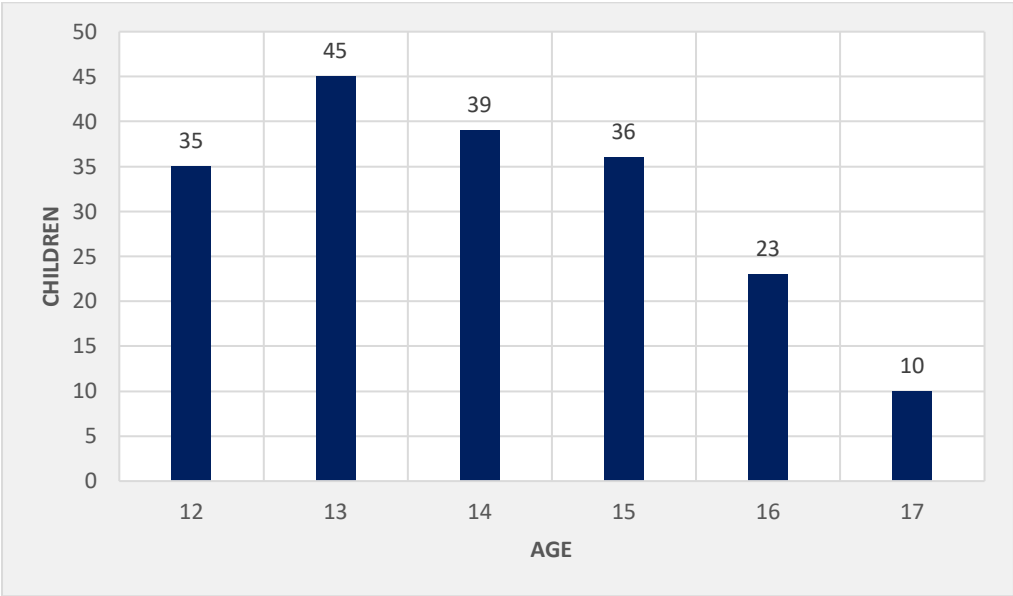
Table 7: Percentage of children (with functional difficulty, in session 1 and session 2, as identified by teachers, in two learners samples, in Bukere primary school

Learners samples	Session 1 Frequency (%)	Session 2 Frequency (%)
Group 1: Assessed by Teachers twice (N=715)		
Children without disability	586 (82,0%)	597 (83,5%)
Children with disability	129 (18,0%)	118 (16,5%)
Group 2: Assessed by teachers twice & Caregivers (N=412)		
Children without disability	322 (78,2%)	338 (82,0%)
Children with disability	90 (21,8%)	74 (18,0%)

c) Group 3. Percentage of children with functional difficulty, among learners assessed by teachers in session 1 and session 2, caregivers and themselves

The Self-Reporting phase was conducted among children aged 12–17 years old. The average age of the participants is 13.98 years, with a standard deviation of 1.46 years. The median age of the participants is 14 years old. The provided figure 6 visually represents the distribution of children by age in the Self-Reporting Survey.

Figure 6: Number of Children by Age



In Table 8, it is evident that the percentage of children with functional difficulty, as identified by the teachers, is notably higher for children assessed by teachers twice, caregivers, and self-reporting (group 3) than for those assessed only by teachers twice (group 1).

In Group 3 (12-17 years), the same phenomenon is observed: in session 2, the percentage of children with functional difficulties stands at 19%, which is close to the observed percentage (18%) in Group 2 (5-17 years). However, it is important to note that the percentage variation in teachers' assessments between sessions 1 and 2 is more pronounced in Group 3 (27.7% to 19%) than in Group 2 (21% to 18%).

In the following section, the examination of changes between session 1 and session 2 will consider the percentage variations in different domains, providing insights into where teachers made adjustments by comparing the percentages of children with functional difficulties in each domain within the three groups.

Table 8: Percentage of children with functional difficulty, in session 1 and session 2, identified by teachers, in two samples (self-report by children), in Bukere primary school

Learners samples	Session 1 Frequency (%)	Session 2 Frequency (%)
Group 1 : Assessed by Teachers twice (5-17 years)(N=715)		
Children without disability	586 (82,0%)	597 (83,5%)
Children with disability	129 (18,0%)	118 (16,5%)
Group 3: By Self-report by children (12-17 years) (N=195)		
Children without disability	141 (72,3%)	158 (81,0%)
Children with disability	54 (27,7%)	37 (19,0%)

d) Percentage of children with functional difficulty, per domain and per group

The table 9 shows the percentage of children with functional difficulty, per domain in the groups of learners.

The table first reveals that, significantly, certain sensory and motor-related domains are under-represented due to factors such as the limited accessibility of mainstream schools for children with these types of difficulties. These children might not be enrolled, stay at home, or attend the specialized school in Kyaka II³⁴ or even outside the settlement (although this is less likely).

Then, this is interesting to observe the evolution of the rates in each sub-groups between the 2 assessments (session 1 and session 2). Rates are rarely constant and varies (either by reducing as accepting changes, controlling behavior, anxiety, and depression; either by increasing as learning, remembering and concentrating).

³⁴ Schools supported by others NGOs.

Finally, comparing the results between sub-groups, it reveals a similar trend in the shift of domains with the highest scores between Session 1 and Session 2 for children assessed by teachers and children assessed by teachers and caregivers. In S1, teachers placed their focus: *Accepting Change* (6.3%) and *Controlling Behaviour* (5.6%). However, in S2, this shifted towards *Learning* (7.4%) and *Remembering* (7.8%).

On the other hand, the disability status by domain for the last group (learners assessed by teachers twice, caregivers and self-reporting) displays a slightly different pattern but it is worth noting that the age range differs (the Self-Reporting Survey only includes children aged 12 to 17).

Further analysis (not mentioned here) showed that the percentage of functional limitation among the youngest learners (aged 5 to 11 years) was lower than the percentage among the older group (aged 12 to 17 years).

Table 9: Percentage of functional limitation per Domain at Bukere School among Teachers (S1 & S2) by learners sub groups

Samples	Group 1: Assessed by Teachers twice (N=715)		Group 2: Assessed by teachers twice & Caregivers (N=412)		Group 3: Assessed by teachers twice, caregivers and self-reporting (N=195)	
	Session 1 (%)	Session2 (%)	Session 1 (%)	Session 2 (%)	Session1 (%)	Session 2 (%)
Seeing	0,0%	0,1 %	0,0%	0,0%	0,0%	0,0%
Hearing	0,0%	0,1%	0,0%	0,0%	0,0%	0,0%
Mobility	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Communication	0,4%	0,1%	0,2%	0,7%	0,0%	1,5%
Learning	4,2%	7,4%	5,1%	7,5%	3,6%	2,6%
Remembering	4,9%	7,8%	5,1%	7,8%	3,6%	2,6%
Concentrating	0,8%	2,0%	1,2%	2,7%	1,0%	4,1%
Accepting change	6,3%	2,7%	7,8%	3,2%	9,7%	5,6%
Controlling behaviour	5,6%	2,7%	6,3%	1,5%	9,7%	3,1%
Making friends	1,0%	1,7%	0,5%	2,4%	0,5%	4,1%
Anxiety	3,1%	0,1%	4,4%	0,7%	6,7%	1,0%
Depression	1,4%	0,1%	2,4	0,5%	3,0%	0,5%

3.2 Percentage of children with functional difficulty assessed by teachers in three schools (Bukere, Mukondo, Bujubuli)

a) Percentage of Children with Functional Difficulty: Assessment by Teachers in Session 1 and Session 2 •

After matching data collected for the session 1 and the session 2, percentage of children with functional difficulty assessed by the teachers is 17,8% during first session and 16,3% during second session (Table 10). Among the three schools, the percentage of children with functional difficulty identified by the teachers varies as follows:

- At Bukere School, 18.0% of learners showed to have disability in the first session, compared to 16.5% in the second session.
- At Bujubuli School, 25.2% of learners showed disability in the first assessment compared with 22.4% in the second assessment.
- At Mukondo School, 10,8% of learners showed disability in the first assessment compared with 10,7% in the second assessment.

In session 2, at Bujubuli School, the teachers revised their assessments downwards, just like at Bukere School, where the percentage decreased from 25.2% to 22.4%. At Mukondo School, between session 1 and 2, the percentage of children with functional difficulties remains unchanged at 10.8%.

Table 10: Percentage of children with functional difficulty in session 1 and session 2, in the 3 schools and per school

Schools	Session 1 Frequency (%)	Session 2 Frequency (%)
Total (N=1926)		
Children without disability	1583 (82,2%)	1612 (83,6%)
Children with disability	343 (17,8%)	315 (16,3%)
Bukere primary school (N=715)		
Children without disability	586 (82,0%)	597 (83,5%)
Children with disability	129 (18,0%)	118 (16,5%)
Bujubuli primary school (N=575)		
Children without disability	430 (74,8%)	446 (77,6%)
Children with disability	145 (25,2%)	129 (22,4%)
Mukondo primary school (N=636)		
Children without disability	567 (89,2%)	568 (89,3%)
Children with disability	69 (10,8%)	68 (10,7%)

b) Percentage of children with functional difficulty, per domain

Table 11 reveals similarities in the evaluations provided by teachers from the three schools, especially concerning dimensions such as vision, hearing, mobility, communication, and the ability to make friends. Overall, teachers from all three schools assign similar percentages in both session 1 and session 2. These percentages remain very low, as indicated in the previous section.

The evaluations by teachers from Mukondo School exhibit a distinctive profile. These teachers maintain nearly identical evaluations between sessions 1 and 2 for all 12 dimensions studied, whereas teachers from the other two schools adjust their evaluations in some dimensions, either upward or downward, during session 2. Furthermore, the percentage of children experiencing functional difficulties at Mukondi School appears to be primarily associated with two dimensions: anxiety and depression.

At Bujubuli School, a phenomenon akin to what was observed at Mukondo School recurs, wherein a higher percentage of children exhibit functional difficulties in one dimension compared to the other 11 dimensions. Similar to Mukondo, teachers at Bujubuli have identified a significant number of children facing challenges in the 'Remembering' dimension. In contrast, evaluations for the other dimensions at Bujubuli School appear to remain relatively stable between sessions 1 and 2, although they consistently score significantly lower than the 'Remembering' dimension. The percentage of children with functional difficulties in this area stands at 19.8% in session 1 and shows a slight decrease to 19.4% in session 2. This high proportion contributes to the overall elevated percentage of children with functional difficulties in Bujubuli School when compared to the lower percentages observed in the other two schools.

Table 11: Percentage of functional limitation per Domain among Teachers (S1 & S2) by learners in the three schools

Samples	Bukere School (N=715)		Bujubuli (N=575)		Mukondo (N=636)	
	Session 1 (%)	Session2 (%)	Session 1 (%)	Session 2 (%)	Session1 (%)	Session 2 (%)
Seeing	0,0%	0,1 %	,2 %	0.0%	0,2%	0.0%
Hearing	0,0%	0,1%	0.0%	0.0%	0.0%	0.0%
Mobility	0.0%	0.0%	0,3%	0,2%	0,2%	0.0%
Communication	0,4%	0,1%	2.0%	0,5%	0.0%	0.0%
Learning	4,2%	7,4%	11,7%	8,0%	0.0%	0.0%
Remembering	4,9%	7,8%	19,8%	19.4%	0,2%	0.0%
Concentrating	0,8%	2,0%	,7%	0,3%	0.0%	0.0%
Accepting change	6,3%	2,7%	5,6%	1,9%	0,2%	0,2%
Controlling behaviour	5,6%	2,7%	3,8%	1,0%	0,2%	0,2%
Making friends	1,0%	1,7%	0,3%	0,2%	0,2%	0.0%
Anxiety	3,1%	0,1%	0,3%	0,3%	9,1%	9,7%
Depression	1,4%	0,1%	0,5	0,3%	9,3%	10,4%

3.3 Intra-Observer reliability (S1/S2)

a) Measuring Intra-Observer Reliability (S1/S2) in Assessing Disability Status among Teachers at Bukere Primary School

In Table 12, Intraclass Correlation Coefficients (ICC) were computed across three different samples from Bukere Primary School. These ICC values serve as indicators of the agreement between S1 and S2, thereby reflecting the reliability of teachers in assessing the disability status of their students. Additionally, the values of Cronbach's Alpha Single Measures help in assessing the internal consistency of measurements.

The ICC values indicate a **moderate level of agreement** between the two assessments conducted by teachers, which were performed three weeks apart. This suggests a moderate degree of reliability in evaluating the disability status of learners in their respective classes.

Specifically, when calculated within the sample of learners assessed by teachers twice (Group1), the ICC value is 0.53. A similar degree of reliability is observed in the other two samples (Group 2,3), with both ICC values at 0.49, and 0.50. While slightly lower, these values still reflect a moderate level of reliability in the assessments conducted by teachers. These consistent ICC values underscore the potential significance of these surveys in effectively capturing and understanding the disability status of learners at Bukere School.

The moderate reliability underscores the trustworthiness of the collected data and strengthens the credibility of the insights derived from these surveys in understanding the percentages of disabilities among the learners.

Table 12: Intra-Observer Reliability Between S1 and S2 in Assessing Disability Status Among Teachers Within Learner Subgroups

Learners samples categories	ICC S1-S2 (Average measure) [95% CI]	ICC S1-S2 (Single measure) [95% CI]	Cronbach's Alpha
Group 1: Assessed by Teachers twice (N=715)	0,53 [0,45 - 0,59]	0,36 [0,23 - 0,42]	0,53
Group 2: Assessed by teachers twice and caregivers (N=412)	0,49 [0,39 – 0,58]	0,33 [0,24, - 0,41]	0,49
Group 3: Assessed by teachers twice, caregivers and self-report (N=195)	0,50 [0,35 – 0,63]	0,34 [0,21 - 0,46]	0,51

ICC using a consistency definition; P<0,001

b) Measuring Intra-Observer Reliability (S1/S2) in Assessing Disability Status Among Teachers at Bukere, Bujubili and Mukondo primary schools

Table 13 shows a moderate level of agreement of the ICC between sessions 1 and 2, spaced three weeks apart, across the three schools.

Table 13: Intra-Observer Reliability Between S1 and S2 in Assessing Disability Status for Learners Among Teachers Across Three Schools

Learners samples by school	ICC S1-S2 (Average measure) [95% CI]	ICC S1-S2 (Single measure) [95% CI]	Cronbach's Alpha
Bukere School (N=715)	0,53 [0,45 - 0,59]	0,36 [0,23 - 0,42]	0,53
Bujubuli School (N=575)	0,50 [0,35-0,63]	0,34 0,21-0,45]	0,50
Mukondo School (N=636)	0,52 [0,44-0,59]	0,35 [0,28 -0,42]	0,52

ICC using a consistency definition; P<0,001

4. Inter-rater reliability: Teachers, caregivers and children: different perceptions

4.1 Teachers (session 1) versus caregivers

a) Percentage of children with functional difficulty, assessed by teachers and by caregivers

The table 14 compares the percentage of children with functional difficulty, identified by teachers (session 1) and then by caregivers. After matching, the teachers identified 21.8% of the learners as having disabilities during S1, and 18% during S2, while the caregivers identified 24% of learners as having difficulties. Notably, caregivers identified more children with difficulties compared to teachers.

Table 14: Percentage of children with functional difficulty, identified by teachers (session 1) and then by caregivers (N=412)

Proxy	Frequency (%)
Teachers Session 1	
Learners with no difficulty	322 (78,2%)
Learners with difficulty	90 (21,8%)
Caregivers	
Learners with no difficulty	313 (76,0%)
Learners with difficulty	99 (24,0%)

The table 15 shows the percentage of children with functional difficulty, per domain, comparing teachers and caregivers' assessments. Caregivers and teachers assessed the same percentage (5.1%) for the *Remembering* dimension, and they were almost equal in the *Controlling Behaviour* dimension, each at around 6%.

However, substantial discrepancies were observed in other dimensions. For instance, in the *Learning* dimension, caregivers identified 1.5% of children with disabilities, whereas teachers identified 5.1%. Similarly, in the *Accepting Change* dimension, caregivers identified 1.9% of children with disabilities, whereas teachers identified 7.8%. Interestingly, caregivers reported a higher proportion of disability in the *Anxiety* dimension, at 7.8%, while teachers reported only 4.4%. A similar pattern emerged in the *Depression* dimension, where caregivers reported a high percentage of difficulty of 6.1%, while teachers reported 2.4%.

Table 15: Percentage of children with functional difficulty, identified by teachers (session 1) and then by caregivers (N=412)

Domains	Teachers (Session 1)	Caregivers
Seeing	0,0%	2,7%
Hearing	0,0%	1,2%
Mobility	0.0%	0,7
Communication	0,2%	1,5%
Learning	5,1%	1,5%
Remembering	5,1%	5,1%
Concentrating	1,2%	1,0%
Accepting change	7,8%	1,9%
Controlling behaviour	6,3%	6,8%
Making friends	0,5%	1,0%
Anxiety	4,4%	7,8%
Depression	2,4%	6,1%

b) Inter rater reliability between teachers and caregivers

The analysis of agreement between teachers and caregivers regarding the disability status of children yielded interesting results. The Spearman coefficient, which measures the correlation between two variables, was found to be irrelevant with a value of 0.00. Similarly, the inter-rater agreement, quantified using the Kappa statistic with a value of 0.15 [-0,83; 0,11], was also deemed not relevant.

It suggests that **there is limited agreement between teachers and caregivers in their assessments of disability status across all dimensions.** However, despite the lack of strong correlation and agreement, it is notable that **teachers and caregivers did concur on the absence of any difficulty in any domain** for a substantial portion of the children.

For the 412 children matched with their caregivers and teachers, both groups (caregivers and teachers) agree on the absence of a disability in 245 children and the presence of a disability in 23 children. However, for the remaining 144 children, teachers identify 67 of them as having a disability, while caregivers believe these children do not exhibit one. On the caregivers' side, they identify 77 children as having a disability, while teachers assess that these children do not display one. Through a chi-square test (χ^2 , $\alpha=0.05$), it has been established that the disagreement in opinions between caregivers and teachers is statistically significant.

c) Deep dive in agreement domains between teachers and caregivers

The process of identifying which domains children experienced difficulties in, as determined by both teachers and caregivers, yields intriguing insights. Examining the domains where there is agreement on the state of disability can provide valuable information about the children's challenges. A more detailed analysis of these findings highlights specific domains that both teachers and caregivers were sensitive to, revealing distinct areas of concern.

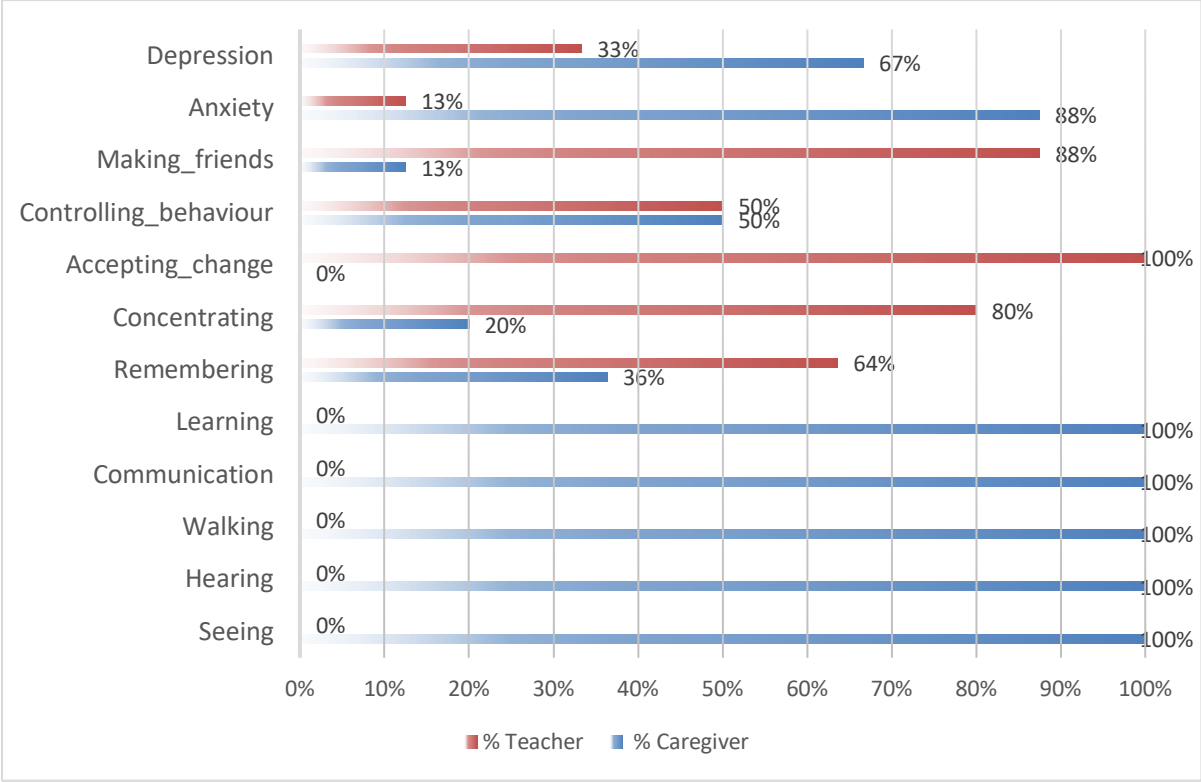
This figure 7 illustrates the agreement in identifying disability between teachers and caregivers for various dimensions. The dimensions are represented along the vertical axis, and the percentages indicate the level of agreement on identifying disability within each dimension.

For teachers (represented by the red sticks), the following domains stood out as particularly important, in descending order of sensitivity, as determined by teachers: *Accepting Change* (100% sensitivity), *Making Friends* (88% sensitivity), and *Concentrating* (80% sensitivity). These findings suggest that teachers were highly attuned to detecting difficulties in these domains among the children. The agreement in identifying disability in these areas underscores their significance in the context of the children's educational and social experiences. Caregivers seem more responsive to mobility, hearing, seeing, communication and learning domain (all 100%).

The analysis of disability identification by both caregivers and teachers provides valuable insights into their differing perspectives. Caregivers exhibited sensitivity to specific dimensions that were not identified by teachers, revealing distinct areas of concern. These findings suggest that **while caregivers and teachers agreed on the disability status of certain children, their responses differed on the specific dimensions that posed challenges**. Caregivers appeared to respond more to physical conditions, communication, learning, and the emotional well-being of the children. Notably, caregivers' concerns about anxiety might be influenced by the context of being refugees in Uganda. In contrast, teachers' identification of difficulties was more aligned with educational principles essential for socialization, such as "accepting change" and "concentrating." Both groups were equally sensitive to issues of "controlling behavior," indicating that they recognized the importance of consistent discipline both at school and at home.

These findings underscore the multifaceted nature of disability identification and highlight the unique perspectives of caregivers and teachers. While they may agree on the presence of disability, the specific dimensions they identify as challenging can differ based on their roles, experiences, and priorities.

Figure 7: Agreement with Teachers (S1) and Caregivers for Disabilities (%) by Dimension



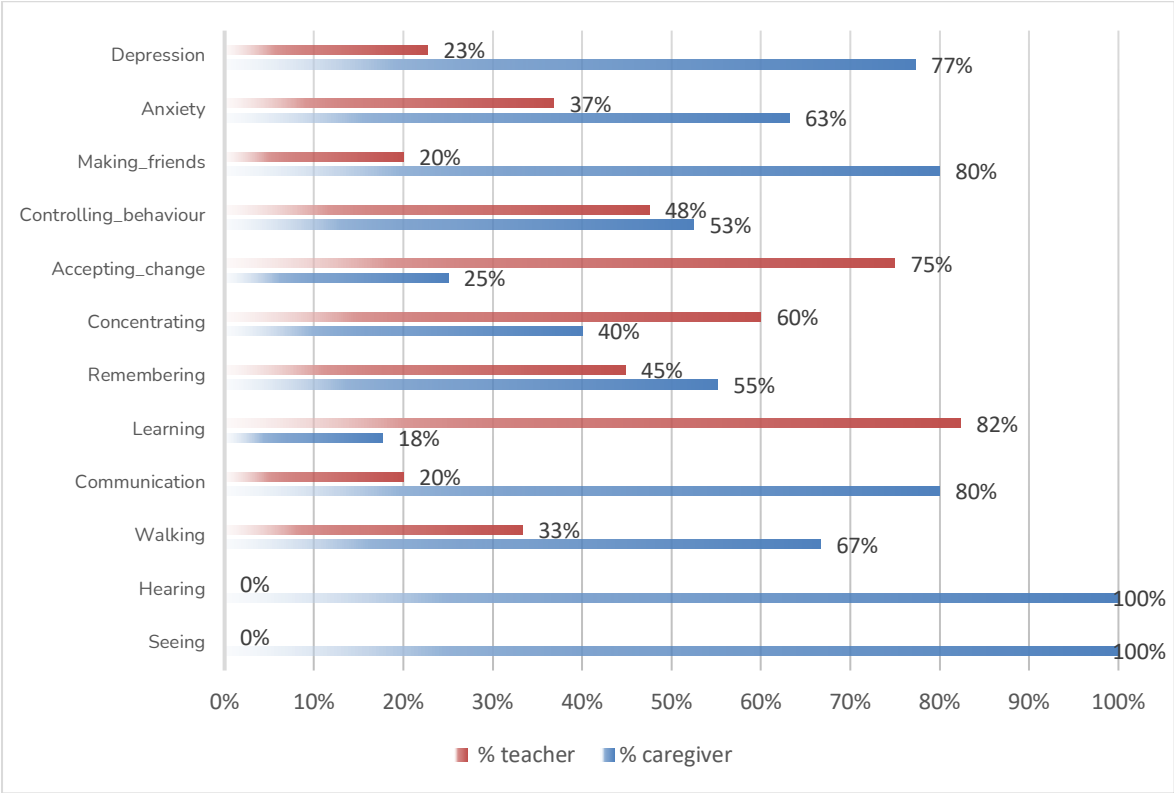
d) Deep dive in disagreement between teachers and caregivers

This figure 8 illustrates the non-agreement in identifying disability between teachers and caregivers for various dimensions. As for the figure above, the dimensions are represented along the vertical axis, and the percentages indicate the level of agreement on identifying disability within each dimension. This figure provides insights into how this discrepancy manifests. Specifically, there are cases where teachers did not identify disabilities that caregivers did (67 children), and vice versa, where caregivers did not identify disabilities that teachers did (76 children).

On one hand, teachers identified three dimensions as significant dimension to identify disability that caregivers did not: *Learning* (82% for teachers versus 18% for caregivers); *Accepting Change* (75% for teachers versus 25% for caregivers) and *Concentrating* (60% for teachers versus 40% for caregivers). On the other hand, caregivers were particularly sensitive to visual and auditory impairments (100% versus 0% for teachers), but also *communication and making friends* (80% for caregivers versus 20% for teachers) and lastly emotional well-being, including *Anxiety* and *Depression* (respectively 77% and 63% for caregivers). A closer match was observed between caregivers and teachers for *Controlling Behaviour* with 53% agreement for caregivers and 48% for teachers. Similarly, *Remembering* had a relatively close match, with 55% agreement for caregivers and 45% for teachers.

These findings highlight the dimensions where teachers and caregivers diverged in their assessment of disabilities among children. While teachers tended to focus on learning-related aspects and the ability to adapt to change, caregivers were particularly attentive to sensory impairments, communication difficulties, socialization challenges, and emotional well-being. The dimensions with closer matches between the two groups suggest areas where their perspectives overlapped to some extent, indicating more agreement.

Figure 8: Non agreement between teachers (S1) and caregivers on the disability status by dimensions (%). Source: Survey Form caregiver, Survey form Teacher S1



e) Qualitative complement

During the FGDs, teachers were divided when asked whether their assessments would be in line with those of parents.

“What I know in someone child is not what the mum knows”. A male teacher, FGD.

“It might be similar but not the same because of some reasons I'm going to give: the attitudes may not be the same, the way we understand is not the same, the way we reason is not the same and the way we say things. So it may not be the same”. A female teacher, FGD.

Despite this, they thought themselves to be good proxies and well placed to assess the children of their classroom. This was because teachers spend more time with the children compared to the caregivers as children spend more time at school than at home during the week. They also considered that they could have less bias or expectations from the assessment, which may not be the case of the caregivers who might hope to get some support/ aid from HI.

4.2 Teachers vs. Learners

During interviews, some teachers suggested directly asking the learners the questions, which raises concerns about the children's ability to comprehend and respond to such queries.

"I request that next time [when uncertain], we ask these learners the questions because we might be here and not know." -a female teacher, FGD.

a) Cognitive Interviews with Children

To ensure interviews were not excessively lengthy, the 28 children sampled for the cognitive interviews from Kakoni and Sweswe primary schools were split into two groups. The first group addressed the initial half of the CFM (questions 1 to 14), while the second group tackled the latter half (questions 14 to 24). More difficulties and comments emerged from the group answering the second half, which includes well-known, intricate dimensions such as learning, remembering, concentrating, changing routines, and emotional state. Some difficulties identified by the children are as follows:

- **Hearing:** One child became confused and conflated "hearing" with "listening" when discussing their parents.
- **Self-care:** Two children misunderstood the question, relating it to the availability of food at home.
- **Remembering/Learning:** Like teachers, children referred to their ability to recall the last lesson. This is not surprising, given that contextual factors can influence responses, and interviews were carried out in school. Additionally, the distinction between remembering and learning was not clear.
- **Affect:** An overlap between anxiety and depression existed, but children comprehended the questions and referenced daily challenges they face, often related to their refugee circumstances.

"I have things I worry about like food, fees, and other necessities." – Boy, 14 years old, Cognitive Interview.

"The truth is that I get sad from time to time because I worry a lot about my future." – Girl, 13 years old.

Learners in lower-grade classes demonstrated an equal ability to comprehend, respond, and share examples as with students in upper grades. Some lower-grade learners even displayed more eloquence than their upper-grade counterparts. National children exhibited less reservedness and shyness compared to refugee children, who recounted past ordeals and experiences, particularly when discussing questions about remembering things, anxiety, sadness, and depression.



Use of information from the cognitive interview with children to adjust the CFM questionnaire

During the interviews with the 246 children, the questions themselves remained unchanged, but certain examples were introduced to enhance comprehension, particularly within the affect domain. *The parts changed / added from the original CFM questions are colored in blue.*

- CF23. How often do you feel very anxious and worried, *so worried that it stops you from thinking about things you like, or even from doing things you like?*
- CF24. How often do you feel very sad, *so sad or in bad mood that you feel like crying, that you prefer to be alone?*

Ultimately, no child indicated encountering any difficulty in responding to the complete CFM questionnaire. When asked to rate their experience on a scale from 1 to 10 (with 10 indicating very easy), the children provided an average score of 8, with a margin of error of +/- 1.5.

b) Percentage of children with functional difficulty, identified by self-reporting

The table 16 summarized the percentage of children with functional difficulty, identified by teachers in session 1 and by self-reporting. After matching, the teachers identified 27,7% of the learners as having disabilities, while the children identified 7,2% of learners as having difficulties. Notably, teachers identified considerably more children with difficulties compared the learners' self-report.

Table 16: Percentage of children with functional difficulty, identified by teachers in session 1 and self-reporting (N=195)

Proxy	Frequency (%)
Teachers Session 1	
Children with no difficulty	141 (72,3%)
Children with difficulty	54 (27,7%)
Childre by self-report (12-17 years)	
Children with no difficulty	181 (92,8%)
Children with difficulty	14 (7,2%)

The table 17 shows the percentage of children with functional difficulty, per domain, as identified by children themselves. These self-reported estimates provide valuable insights into how the learners perceive their own disabilities across different dimensions. The learners' self-reported state of disability varies across different domains. Notably, they reported no difficulty for *Learning, Concentrating, Anxiety and Depression*. On the other hand, the domains with relatively higher difficulty percentages are *Seeing (1.0%), Hearing (0.5%), Communication (1.0%), Accepting Change (1.0%), Controlling Behaviour (0.5%), and Making Friends (0.5%)*. The domain with the highest self-reported domain of difficulty is *Remembering*, with an estimated state of disability of 2.6%.

Table 17: Percentage of children with functional difficulty by domain, identified by teachers in session 1 and self-reporting (N=195)

	Teachers (Session 1)	Self-reporting
Seeing	0,0%	1.0%
Hearing	0,0%	1.0%
Mobility	1.0%	2.0%
Communication	0,2%	1.0%
Learning	5,1%	0.0%
Remembering	5,1%	3.0%
Concentrating	1,2%	0.0%
Accepting change	7,8%	1.0%
Controlling behaviour	6,3%	1.0%
Making friends	0,5%	1.0%
Anxiety	4,4%	0.0%
Depression	2,4%	0.0%

c) Exploring the Intraclass Correlation Coefficient (ICC) between learners and teachers

The ICC analysis indicates that **there is no relevant agreement between learners and teachers across these dimensions**, as reflected by a low Kappa value of -0,03 and a very low Spearman coefficient of 0,002. This suggests a lack of correlation between the disability status estimated by learners and their teachers. These results emphasize the differences in perception between learners and teachers when it comes to assessing disability status.

5. External factors that could influence reliability

5.1 Number of learners in the classroom

The assumption here was that assessing all learners, especially when the classroom sizes exceed 80 students which is common in African schools³⁵ and even 135 students in refugee settlements in Uganda³⁶, would be difficult, even impossible for teachers.

To investigate whether teachers might skip certain questions of the CFM-TV for specific learners, the "don't know" option was offered to teachers at one of the selected schools (Bujubuli). However, analysis indicated that none of the teachers chose to use this option. This finding was corroborated during FGD, where teachers uniformly expressed that bypassing a question or a child was not an acceptable approach for them.

This does not imply that the assessment was an effortless task. Some teachers shared that they were not acquainted with all the learners in their classroom during the research period. Nevertheless, they all showed determination and pride in overcoming these challenges. They revealed that when completing the form, they invested a significant effort to mentally connect the child's name on the list with their image to accurately identify and evaluate them.

In the end, only 19% (4) of teachers were unable to assess the entire class (approximately 5 learners). This approach was expressed as "*Bringing teachers closer to each learner*," as stated by a female teacher in the FGD.

However, the downside of this approach is the potential for *guessing answers* in cases of uncertainty. Overall, it is challenging to arrive at a definitive conclusion, as 42.9% of teachers stated that they were very confident in the data they generated, and 57.1% reported being confident (on a scale of 3: 1 being very confident, 2 being confident, and 3 meaning others). Nevertheless, analysis of the number of teachers who stated they are confident, rather than very confident, shows that these individuals encountered greater difficulties in completing the CFM-TV questionnaire (Question 16, Exit Survey). In short, the likelihood of encountering *guessed answers* in this survey might be more closely related to the level of difficulty in completing the CFM TV. On a scale of 1 to 10, when the difficulty level is greater than 3, in such cases, one could expect to have *guessing answers*. However, this would apply only to 14% of the sample of teachers, a relatively low percentage that ensures a good quality of the questionnaires completed by the teachers.

Some teachers emphasized during the FGD that they were familiar with each learner in their classroom, regardless of the class size, as one participant put it:

"I come to master them [140 learners], know them one by one" said a male teacher in the FGD.

³⁵ <http://uis.unesco.org/sites/default/files/school-resources-and-learning-environment-in-africa-2016-en/school-resources-and-learning-environment-in-africa-2016-en.pdf>, <https://www.wider.unu.edu/publication/what-matters-learning-east-africa>

³⁶ MoES, 2023. Second Education Response Plan for Refugees and Host Communities in Uganda 2021/22 – 2024/25

5.2 Timing of evaluations

The assumption here was that it would be worth waiting until the school year has begun to give the teachers chance to know their students better before launching this assessment.

A window period between the start of the school year and the assessments is indeed necessary (at least 1 month and even more). But it may not be necessary to wait longer than this, as teachers in this study were able to assess each learner in their class after a few weeks together.

"It made me panic [...]. At first it was challenging but I managed. I never imagined I could remember details about a child I have just met few months ago" a female teacher, Cognitive Interview.

It is important to note that in emergency settings class sizes can change rapidly, either due to children dropping out of school or new children enrolling. One teacher in the study reported that between the two data collection sessions (i.e., 3 weeks), the number of children in her class had risen from 91 to 123.

It is also interesting to note that there is no significant difference between Session 1 and Session 2 in terms of the relationship between teachers and learners. For example, in the Self-Reporting Survey, in Session 1, the average level of relationship is 5.42 (± 1.33), and in Session 2, the average level is 5.47 (± 1.28). The p-value is 0.26, which means that the difference in the sample is equal to zero. Even though they all declared having observed children during this interval and getting closer to their students, the absence of variability suggests that teachers were finally harmonized with their learners during Session 2.

Measurement of the Teacher-Learner relationship index

Several approaches and scales exist to measure the level and quality of the relationship between teachers and their learners/ students³⁷. Nevertheless it was not possible to include all the measurement questions in this survey. A 1 item-question was included and addressed to the teachers, with a 10-points scale as answer modality.

³⁷ Fabris MA, Roorda D and Longobardi C (2022) Editorial: Student-teacher relationship quality research: Past, present and future. *Front. Educ.* 7:1049115. doi: 10.3389/feduc.2022.1049115

5.3 Training and practice

The underlying assumption here was that initial awareness or training was crucial to ensure the quality of the collected data. Hence, a two-days training session was conducted for the 21 teachers, encompassing an awareness segment on disability and an explanation of all CFM-TV questionnaire items.

This training proved valuable for various reasons:

- **Promoting Awareness Messages to Counter Common Perceptions of Disability:**
"The training we underwent has transformed my negative attitude into a positive one." Female teacher, FGD
- **Imparting Basic Knowledge to Facilitate Optimal Participation:** For instance, teachers recognized that functional limitations extend beyond visible challenges (such as vision or mobility limitations) and that other factors such as making friends should be considered. They realized that all facets of the children's experiences are relevant.
"The CFM-TV tool has enlightened me about certain learning difficulties that students face, beyond physical impairments. I was unaware that 'change in daily routine' [could be linked to a potential] learning difficulty, and I used to reprimand children for not complying with certain tasks in class, assuming it was indiscipline." – Male teacher, Case studies.
"I had never even thought, not even in my training, that difficulties in remembering and concentrating were considered learning challenges." – Male teacher, Case studies.
- **Overcoming Initial Reluctance and Apprehensions,** because they did not want to waste their time, were not convinced by the presentation of the project or were afraid to fail any kind of evaluations.
"At first, when we walked into the room, we were quite uncertain about the training." – Male teacher, FGD
- **Boosting Confidence and Sense of Proficiency:** The training marked a turning point, motivating teachers.

The initial data collection round was pivotal as they applied their newfound knowledge and discovered their ability to evaluate all their students. During data collection, teachers worked independently with tablets, dedicating time to assess each child individually. The team analyzed teachers' schedules to identify suitable time slots which would not disrupt teaching (usually mornings before classes or specific afternoons). The research team provided support by being present at school, ready to assist if needed, and setting up WhatsApp groups for each school to facilitate communication and address logistical aspects. Even before the first data collection session, teachers were enthusiastic to commence and communicated to expedite the process.

During FGDs, teachers expressed greater confidence in the data produced during the second session, considering the first session as a sort of pilot phase. However, it is important to note that this finding might need to be tempered, as it is not confirmed by other research sources on the same topic. The level of confidence reported in the exit survey, for instance, remained consistent between the two rounds of data collection. What is evident is that teachers felt at ease, confident, and rapidly familiarized themselves with using the CFM-TV.

"The teachers were all much more adept the second time." Research Assistant, Debriefing.

6. Benefits of using the CFM-TV

6.1 Changes at the Teacher's Level: Attitude and Practice Transformation

Most teachers reported a shift in their teaching attitudes and practices after the initial round of data collection. Remarkably, these changes occurred within just one month, as the CFM-TV prompted teachers to adopt a more child-centered approach. Analyzing teachers' feedback on their experience with CFM-TV through socio-behavioral change models³⁸ provides insights.

6.1.1 Initial Situation

Before integrating CFM-TV into their classrooms, teachers described an environment characterized by discipline, exclusive focus on learning performance, selective participation favoring the most promising students, fear and punishment, and the exclusion of more reserved, quirky, inattentive, stubborn, or boisterous students. These descriptions stood in stark contrast to inclusive and compassionate teaching theories that emphasize respecting each child's pace and abilities. Furthermore, when it came to identifying learners with difficulties, some teachers referred to assessments that were occasionally ineffective or overlooked entirely. As one teacher simply stated: *"Identify learners with disabilities? It wasn't common before, and we never gave it much thought."*

6.1.2 CFM-TV as a Catalyst: Recognizing the Need for Change

Through the utilization of CFM-TV, teachers began to grasp the challenges within their classrooms, not only concerning learners with disabilities but also beyond. Overcrowded classes, disproportionate focus on the better performing students, neglect of fundamental principles including equitable participation for all – these factors led to a sense of disillusionment and fatigue, contributing to less-inclusive classes and unequal access to education.

³⁸ As the Transtheoretical Model (also called the Stages of Change Model), developed by Prochaska and DiClemente in the late 1970s.

"The tool made me question myself from multiple angles. For instance, how could I teach a learner for an entire year without even knowing their name?" – a male teacher, Case Studies.

"The first time I used that tool, most of the information provided was speculative because I didn't know the learners well. It was a wake-up call for me, opening my eyes to get acquainted with all my learners." – a female teacher, Case Studies.

Teachers realized they played a role in the equation of the problem and held the capacity to drive change.

"I have altered my behavior, almost as if I was a hindrance to them." – a male teacher, FGD

6.1.3 Fostering Change: Creating Opportunities

Equipping teachers to evolve was crucial. The research played a role by demonstrating that collecting learner data is feasible, efficient, and beneficial to their work. This was facilitated by creating a supportive environment, including training and continuous team assistance. More importantly, teachers discovered their capability to assess every student in their classroom – a revelation that unfolded after two rounds of data collection.

"Now I recognize each and every learner in my class." – a male teacher, FGD

6.1.4 Embracing Change: Taking Action

The initial step involved focusing on learners and identifying those struggling with learning.

"I have a learner with visual impairment. Whenever he reads, he tilts his head, which might appear as if he's glancing aside. In reality, he is looking at the words, something I never noticed or paid attention to before the tool." – a male teacher, Case Studies.

Subsequently, teachers accepted the challenge posed by these students, taking the time to analyze situations and devise initial solutions either individually or collaboratively. A variety of solutions emerged, tailored to each child: altering seating arrangements to encourage peer assistance, permitting tactile learning aids, fostering peer learning, engaging in role-play activities, or initiating dialogues with both children and caregivers. The two-days training teachers participated under the DiDa-School project was on disability awareness and CFM-TV and did not cover the concept or pedagogical techniques of inclusive education. All the ideas emerged from their own initiative and motivation. Interestingly, these actions aligned with common recommendations for a more inclusive school, such as optimizing class setups, employing various communication methods, and promoting peer support.

"I made it my challenge to understand these children better, and I can confidently state that now we share jokes, play, jump, and dance together without hesitation." – a female teacher, Case Studies.

"Now, I look at my learners differently and before I rule out a case of bad behaviour, I take time to understand them, thanks to the tool" – a male teacher, Case Studies

➤.◀ Teachers might not anticipate encountering severe challenges when acting

The percentage of children with functional difficulty per domain reveals minimal occurrence in sensory domains, particularly in relation to difficulty seeing among the evaluated children. However, in qualitative discussions, teachers explained their involvement in assisting children with such functional limitations. This incongruity is perplexing, yet it demonstrates that teachers engage in supportive measures even for children experiencing "some difficulties", extending beyond those confronting the most profound challenges in terms of intensity. This inclination toward inclusivity in addressing varying levels of difficulty intensity underscores an equitable approach that strives to ensure equitable learning opportunities for all children.

6.1.5 Sustaining Change

The CFM-TV appears to serve as a robust catalyst for change among teachers. It offers a fresh perspective, an effective tool to enhance practices, redirect focus onto children and their requirements, and motivate teachers to innovate and discover apt solutions. The pertinent question now arises: how can this transformation be sustained? What measures can uphold the motivation of these educators?

During this research, tablets were employed by teachers for data input, with the entered data being transmitted, which hindered direct access to this information. A substantial number of teachers expressed their preference for printed versions of assessment results. They preferred to have tangible copies to engage with, allowing for prompt actions and long-term tracking.

Teachers also underscored the significance of deploying such a tool within their school, potentially extending to district or even national levels. This broader application would greatly benefit their practices and foster more equitable access to education for children with disabilities. It would also facilitate the advancement of inclusive educational policies. Embracing these prospects introduces novel challenges such as data management at the school or administrative level, advocating for political endorsement, influencing resource allocation for scaling the tool, and provisioning teacher training.

As the initiative envisions expanding its reach, meticulous planning and strategic efforts will be necessary. Navigating through these uncharted territories entails orchestrating a comprehensive approach encompassing data governance, resource mobilization, policy engagement, and skill development. These elements coalesce to form the bedrock of a sustainable and inclusive education framework which honors the transformative potential of the CFM-TV.

>•< Data confidentiality

While definitions may vary across jurisdictions, sensitive data generally encompasses information concerning racial or ethnic origins, public opinions, philosophical beliefs, religious affiliations, trade union memberships, physical and mental well-being, and intimate aspects of one's personal life. Disability status constitutes sensitive data, requiring cautious handling due to the potential for stigma and the weight of societal perceptions linked to disability. Consequently, this information necessitates safeguarding throughout its data lifecycle, which includes collection, processing, analysis, and dissemination.

For instance, it was observed that assessment outcomes were shared with other educators and caregivers and could potentially be utilized at the community level to access additional services. Should the CFM-TV expand to a broader implementation, addressing these facets becomes paramount to ensure the protection of children and their families. In such a scenario, comprehensive measures to maintain the privacy and confidentiality of sensitive data must be meticulously devised and integrated into the framework to uphold the rights and well-being of individuals involved.

6.2 Impact on Learners and Class Dynamics: Unexpected Changes

As teachers underwent transformation, a corresponding change was observed in the learners. One unexpected outcome arising from teachers' use of the CFM-TV is a reduction in absenteeism. Teachers reported a newfound ability to address each student by name, a skill that dissuaded students from skipping classes without valid reasons. The fear of disappointing a teacher who actively demonstrates care and concern acts as a deterrent. This effect appears interconnected with another observation: increased learner satisfaction and interaction in classroom settings. When the learners felt supported and valued, they experienced progress and enhanced performance.

"The tool bridges the gap between the child and you. If a child knows that you understand their learning challenges, they change." – a female teacher, Case Studies.

This establishes a virtuous cycle: teachers adopt a more approachable, supportive, and patient demeanor. Learners facing difficulties sense greater comprehension and backing, thereby amplifying their engagement and academic achievements. Concurrently, those without disabilities emulate the affirmative teacher-student dynamic, fostering a culture of mutual appreciation and camaraderie within the group.

"I feel like my students now consider the classroom theirs. They used to say 'my class' but now it's 'our class'." – a female teacher, FGD

Part 4 – Discussion

1. Inputs from other initiatives on disability data tools

Evidence on CFMT-TV is still scarce. In 2019, a small-scale research initiative explored the inter-rater reliability of the CFM-TV in secondary schools within developmental settings, by comparing assessments conducted by two different teachers for the same children³⁹. The likelihood of agreement in learners' assessments between teachers was significantly higher than that of disagreement. The results also indicated that certain teachers encountered more difficulty than others in completing the questionnaire due to varying levels of familiarity or knowledge between teachers and their students. Numerous ongoing research projects⁴⁰ are currently testing the CFM-TV, and this continuous investigation is expected to yield new insights, allowing for meaningful comparisons across different settings in the near future.

More evidence referring to CFM is available.

First, the CFM, used with caregivers, has undergone cognitive testing in Uganda, specifically in Lusoga⁴¹. The research demonstrated that this tool is a valid and reliable scale for assessing disability in Uganda. It further confirmed that the CFM is an easily administered tool that aids in gaining a deeper understanding of the extent of disability in children aged between 5 and 17 years. Subsequently, the same research team compared the reporting of children aged 11 to 17 years and their caregivers⁴². This study indicated a significant correlation and agreement between self-reported responses from caregiver-child pairs. Both studies conducted in Uganda reaffirmed that the CFM is a dependable tool for generating disability data to be utilized with caregivers and children. These findings are in line with favorable outcomes observed in other projects concerning children's self-reporting⁴³.

³⁹ Brus, A., Deleu, M., & Loeb, M. (2019). Testing a teacher version of the UNICEF/Washington Group Child Functioning Module (CFM-TV) in Senegal. In *Humanity & Inclusion*. Humanity & Inclusion.

⁴⁰ The Washington group on disability statistics facilitates a working group, bringing together organizations interested in disability related data production in schools by teachers, and testing various WG tools with this target audience.

⁴¹ Zia N, Loeb M, Kajungu D, Galiwango E, Diener-West M, Wegener S, Pariyo G, Hyder AA, Bachani AM. Adaptation and validation of UNICEF/Washington group child functioning module at the Iganga-Mayuge health and demographic surveillance site in Uganda. *BMC Public Health*. 2020 Sep 1;20(1):1334. doi: 10.1186/s12889-020-09455-1. PMID: 32873287; PMCID: PMC7465762.

⁴² Zia N, Bachani AM, Kajungu D, Galiwango E, Loeb M, Diener-West M, Wegener S, Pariyo G, Hyder AA. Measuring child functioning: Assessing correlation and agreement between caregiver and child responses at the Iganga-Mayuge health and demographic surveillance site in Uganda. *Disabil Health J*. 2021 Apr;14(2):101022. doi: 10.1016/j.dhjo.2020.101022. Epub 2020 Nov 14. PMID: 33218854; PMCID: PMC8035133

A study conducted in Fiji⁴⁴ also investigated the inter-rater reliability between teachers and parents as proxy respondents, utilizing the CFM. The study's overall accuracy in identifying children with disabilities achieved only a "fair" level. The accuracy varied significantly across domains, ranging from "good" to "excellent" for sensory domains (such as seeing, hearing, walking, and speaking), while the accuracy was deemed "fair" to "poor" for cognitive domains (learning, remembering, and focusing attention). The level of agreement between teachers and learners in this survey is not notably significant. Importantly, this finding does not challenge the favorable outcomes from other projects centered on children's self-reporting. Instead, it reinforces the idea that perspectives, interpretation, and expectations differ among respondents who are deemed capable of reporting children's disability statuses (caregivers, children themselves, and teachers). This observation relates directly to the utilization of the data produced.

2. Which data for which purposes?

The tools used by the WG are designed to identify individuals at risk of limited participation due to functional limitations, often associated with health conditions. While the broader goal of encompassing a wider population aligns with an inclusive perspective, there are potential risks to consider: 1) merging different vulnerabilities, which could lead to stigmatization of individuals without disabilities; and 2) the possibility of data misuse, such as triggering unwarranted social assistance. It is crucial to clarify the appropriate use of data collected by teachers regarding their students.

As highlighted by other authors discussing the use of the CFM by teachers⁴⁵, the CFM-TV might not have the required precision to solely determine the presence of disabilities. If the objective is to grant specific disability-related entitlements - such as examination accommodations, disability certification, or financial support - the CFM-TV could serve as a preliminary assessment tool. However, this is not the use for which the WG tools have been developed. In this case, it will be necessary to reconsider (and perhaps revise) the definition of disability, i.e. the cut-off points⁴⁶ that lead to referrals to local healthcare facilities to confirm the child health status.

Collecting data on the disabilities of students within schools remains important, as it can shape the school environment, teaching methods, and learning practices. Additionally, this data plays a pivotal role in formulating educational policies, allocating resources, and monitoring efforts. From a programmatic perspective, this data is crucial for project-level planning and evaluation.

⁴⁴ Sprunt B, McPake B, Marella M. The UNICEF/Washington Group Child Functioning Module-Accuracy, Inter-Rater Reliability and Cut-Off Level for Disability Disaggregation of Fiji's Education Management Information System. *Int J Environ Res Public Health*. 2019 Mar 5;16(5):806.

⁴⁵ The Washington group on disability statistics facilitates a working group, bringing together organizations interested in disability related data production in schools by teachers, and testing various WG tools with this target audience.

⁴⁶ Using for example a broader definition, including children assessed with some functional difficulties.

Education Management Information Systems (EMIS)

Education Management Information Systems (EMIS) play a crucial role in collecting and managing data related to various aspects of education, including children with disabilities. An EMIS is a comprehensive system that encompasses the collection, integration, processing, maintenance, and dissemination of data and information to facilitate decision-making, policy analysis, planning, monitoring, and management at all levels of an education system⁴⁷. As part of their evolution, EMIS now incorporates a component specifically focused on disabilities, which brings attention to the need for an effective tool to gather disability-related data within schools.

Both UNICEF and the WG are collaborating to test the integration of CFM questions into EMIS⁴⁸. This collaboration involves incorporating CFM questions, which are designed to assess functional limitations and disabilities, into the EMIS framework. For instance, Fiji has adopted the CFM to identify children with disabilities within its EMIS⁴⁹. And other research is ongoing. These efforts aim to enhance the accuracy and completeness of data related to children with disabilities within the education system.

3. Practices and teachers

Teachers play a pivotal role in shaping pedagogy and are essential in promoting inclusive education⁵⁰. The positive influence of teachers' practices on students' performance and behavior is widely recognized. Creating lessons that are accessible to all students and offering personalized support can enhance student engagement in the classroom. Consequently, a key question in development is how to efficiently encourage teachers to adopt more inclusive practices. While options such as revising teacher education curricula to incorporate extended training, providing coaching sessions, or establishing post-training communities of practice are available, these solutions can be financially demanding and might not always yield clear results⁵¹.

This research revealed notable and significant shifts in teachers' attitudes and behaviors over a relatively short timeframe. The catalyst for change seemed to be a two-days training session aimed at raising awareness and explaining the use of the CFM-TV.

⁴⁷ <https://learningportal.iiep.unesco.org/en/glossary/educational-management-information-system-emis>

⁴⁸ <https://unstats.un.org/unsd/undataforum/blog/closing-data-gap-on-children-with-disabilities/>

⁴⁹ Sprunt B, Marella M. Combining Child Functioning Data with Learning and Support Needs Data to Create Disability-Identification Algorithms in Fiji's Education Management Information System. *Int J Environ Res Public Health*. 2021 Sep 6;18(17):9413. doi: 10.3390/ijerph18179413. PMID: 34501998; PMCID: PMC8431482.

⁵⁰ <https://www.unesco.org/en/articles/reimagining-future-developing-teachers-research-and-collaborative-capacity-through-teacher-education>

⁵¹ Hayes, A. And Bulat, J., (2017). *Disabilities Inclusive Education Sustrms and Policies Guide for low-and Middle-Income Countries*. RTI Press Publication No. OP-0043-1707. Research Triangle Park, NC: RTI Presse, <https://doi.org/10.3768/rtipress.2017.op.0043.1707>.

The initial assessment of learners then prompted teachers to independently apply their newfound knowledge. This experience appeared to boost teachers' confidence in their roles and empower them to invest more in their positions.

It is worth noting that this research did not establish a definitive causal link between the intervention and the observed changes, nor did it undertake an economic evaluation. However, this aspect could be explored further in the future, especially in emergency settings where project durations are limited.

Furthermore, it is important to acknowledge that in Kyaka II, various NGOs and local/international organizations are actively involved in the education sector. The sampled teachers for this research might have been influenced by these organizations, potentially affecting their experiences and feedback. Considering this, finding cost-effective strategies to encourage teachers to embrace more inclusive practices remains a crucial question in the field of development. Revising teacher education, incorporating training, coaching, and fostering communities of practice are options, though their effectiveness and cost-efficiency need careful consideration, especially given the uncertain outcomes they may yield.

4. Limitations

Research scale: This research presents results from three schools in a settlement in one country and is not representative of the situation in other contexts (national or international).

Teachers' profiles: A significant proportion of teachers were employed by NGOs. It may be a bias in their capacity to offer inclusive solutions. They could possibly have had information if not a previous training on inclusive education. Moreover, all teachers were trained (holding a teaching certificate or a diploma from teachers training colleges). This situation is not a usual one: in emergency settings, most teachers are "community teachers" without degree.

Disability awareness of the teachers: As mentioned, the two-day training session seems to have been a crucial catalyst in initiating a change in practice. However, this training contained disability-related awareness messages, which is not in line with the WG's recommendations that stress the importance of avoiding this word during surveys. It may have influenced the results, particularly on inter-rater reliability.

Matching procedures and samples size: Despite the precautions taken during the various phases of data collection (generation of a unique ID for each child, use of case management software, quality check procedures, etc.), one of the challenges of this research remained to match the information collected for the same child by various informants, meaning gathering four reportings for 1 child. As a result, some analyses were carried out on samples of a smaller size than expected.

Underrepresentation of domains: the low representation of certain domains of functional limitations (such as vision, hearing and mobility) also limited statistical analyses.

Part 5 – Conclusion

This current research found that the CFM-TV was a quite reliable tool for assessing learners with difficulties in primary schools located in settlements in Uganda, and that teachers were also accurate proxy respondents. It also demonstrated that the CFM-TV proved to be a dependable tool for evaluating learners facing difficulties within primary schools located in refugee settlements and producing disability data produced for education focused purposes (at school level at least).

The study also delved into the impact of various factors, such as class size or the perceived level of connection between teachers and learners, the challenges encountered by teachers during assessments and their expressed confidence in the resulting data. No distinct pattern emerged from this exploration. However, observations allow to define a number of recommendations. The classroom size does not seem to affect the ability (and motivation) of the teachers to assess all the learners. Despite this, it is recommended to launch this kind of exercise at least one month after the starting of the new academic term, to leave time to the teachers to become acquainted with their learners.

Interestingly, teachers were initially surprised by their ability to assess all students in their classes and exhibited high confidence in the data they generated. One key of the positive attitude of the teachers was the CFM-TV training completed with the first assessment. This short training and practice, supplemented by assiduous support for the research team during data collection phases, were crucial in the experience of the teachers.

Qualitative interviews revealed that discovering and using the CFM-TV encouraged teachers to change their attitudes towards their learners and adapt their practice to the needs of the learners identified with difficulties in a short time. These observations should not be disconnected from the environment in which this research was carried out. Many NGOs are involved in helping refugee and host communities, particularly in schools. The teachers recruited may therefore have been more receptive to change and adopt practice that is more inclusive.

Certainly, the findings of this research underscore a significant distinction between the evaluation approaches of teachers and caregivers, leading to inherently divergent data outcomes. It is crucial to recognize that, particularly within the context of a refugee settlement, teachers cannot fully substitute for the role of caregivers. This divergence is evident in the comparatively low level of agreement between these two proxies. Teachers will not deliver the same information as the caregivers or the children themselves as they do not have the same focus (teachers more on the concentrating/remembering and parents more on well-being). It potentially affirms that differing perspectives, interpretations, and expectations exist among respondents considered capable of assessing children's disability status (caregivers, the children themselves, and teachers).

As all tool, the CFM-TV presents limits but represent a reliable and not costly alternative to produce data on learners with disabilities in schools.

The results of this research will be used to improve practices and interventions in the field of inclusive education and disability data collection in schools in humanitarian settings. Findings of this research will guide the next phase of the DiDa-School Project, including the production of material to raise knowledge of strategic stakeholders on the CFM-TV and its added-value, explaining when, why and how to use it properly. Moreover, it highlighted new very practical key questions and messages to be incorporated in future Inclusive Education training for teachers (as for examples: do you know the name of the students? Is concentration a learning difficulty? Is making friends' part of teachers' role to supervise? Why a student is boisterous, inattentive?)

This research did not answer to all issues and challenges related to disability data generation in schools and opens up new research perspectives:

- Some to address local challenges raised by this research, as for example:
 - A qualitative research on the profile and experience of the “missing learners” in this overview (especially children with sensorial functional limitations);
- Other to confirm findings:
 - Replicate at a larger scale and in other emergencies and protracted crisis to confirm certain findings
 - Measure the impact of teachers' change of practice at student and classroom levels. Indeed the use of the CFM-TV may support the "social inclusion" of children with disabilities.
- And finally some to open up new fields
 - Test the approach in the host community
 - Explore the profile of the children identified with difficulties and analyze the relationship with the disability status, especially in fragile contexts where socio-economic life conditions are hard
 - Finally, if the benefits and impacts are confirmed, an analysis of the cost of such a data collection system.

Appendices

Appendix 1: Child Functioning Module – Teachers version •

Questions	
CF1. Does [Child_Second_Name] have difficulty seeing even if he/she is wearing their glasses/lenses? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF2. Does [Child_Second_Name] have difficulty hearing sounds like peoples' voices or music even if he/she is using his/her hearing aid? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF3. Does [Child_Second_Name] use any equipment or receive assistance for walking?	Yes No
CF4. without the use of his/her equipment or assistance, does [Child_Second_Name] have difficulty walking? Would you say [Child_Second_Name] has...	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF5. When [Child_Second_Name] speaks, does he/she have difficulty being understood by you or others in this classroom? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF6. Compared with children of the same age, does [Child_Second_Name] have difficulty learning things? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF7. Compared with children of the same age, does [Child_Second_Name] have difficulty remembering things? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF8. Does [Child_Second_Name] have difficulty concentrating on an activity that he/she enjoys doing? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF9. Does [Child_Second_Name] have difficulty accepting changes in his/her routine? Would you say [Child_Second_Name] has	No difficulty Some difficulty A lot of difficulty Cannot do at all

<p>CF10. Compared with children of the same age, does [Child_Second_Name] have difficulty controlling his/her behavior? Would you say [Child_Second_Name] has:</p>	<p>No difficulty Some difficulty A lot of difficulty Cannot do at all</p>
<p>CF11. Does [Child_Second_Name] have difficulty making friends? Would you say [Child_Second_Name] has:</p>	<p>No difficulty Some difficulty A lot of difficulty Cannot do at all</p>
<p>CF12. How often does [Child_Second_Name] seem very anxious, nervous or worried? Would you say:</p>	<p>Daily Weekly Monthly A few times a year Never</p>
<p>CF13. How often does [Child_Second_Name] seem very sad or depressed? Would you say:</p>	<p>Daily Weekly Monthly A few times a year Never</p>

Appendix 2: Child Functioning Module - for caregivers •

Questions	Answers
CF1. Does [Child_Second_Name] wear glasses or contact lenses?	Yes No
CF2. When wearing his/her glasses or contact lenses does [Child_Second_Name] have difficulty? Would you say [Child_Second_Name] has	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF3. Does [Child_Second_Name] have difficulty seeing? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF4. Does [Child_Second_Name] use a hearing aid?	Yes No
CF5. When using his/her hearing aid, does [Child_Second_Name] have difficulty hearing sounds like peoples' voices or music? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF6. Does [Child_Second_Name] have difficulty hearing sounds like peoples' voices or music? Would you say [Child_Second_Name] has	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF7. Does [Child_Second_Name] use any equipment or receive assistance for walking?	Yes No
CF8. Without the use of his/her equipment or assistance, does [Child_Second_Name] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field. Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF9. Without the use of his/her equipment or assistance, does [Child_Second_Name] have difficulty walking 500 yards/meters on level ground? That would be about the length of five football fields. Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF10. While using his/her equipment or assistance, does [Child_Second_Name] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field. Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF11. While using of his/her equipment or assistance, does [Child_Second_Name] have difficulty walking 500	No difficulty Some difficulty

yards/meters on level ground? That would be about the length of five football fields. Would you say [Child_Second_Name] has:	A lot of difficulty Cannot do at all
CF12. Compared with children of the same age, does [Child_Second_Name] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field. Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF13. Compared with children of the same age, does [Child_Second_Name] have difficulty walking 500 yards/meters on level ground? That would be about the length of five football fields. Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF14. Does [Child_Second_Name] have difficulty with self-care such as feeding or dressing him/her self? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF15. When [Child_Second_Name] speaks, does he/she have difficulty being understood by people inside of this household? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF16. When [Child_Second_Name] speaks, does he/she have difficulty being understood by people outside of this household? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF17. Compared with children of the same age, does [Child_Second_Name] have difficulty learning things? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF18. Compared with children of the same age, does [Child_Second_Name] have difficulty remembering things? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF19. Does [Child_Second_Name] have difficulty concentrating on an activity that he/she enjoys doing? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all
CF20. Does [Child_Second_Name] have difficulty accepting changes in his/her routine? Would you say [Child_Second_Name] has:	No difficulty Some difficulty A lot of difficulty Cannot do at all

<p>CF21. Compared with children of the same age, does [Child_Second_Name] have difficulty controlling his/her behavior? Would you say [Child_Second_Name] has:</p>	<p>No difficulty Some difficulty A lot of difficulty Cannot do at all</p>
<p>CF22. Does [Child_Second_Name] have difficulty making friends? Would you say [Child_Second_Name] has:</p>	<p>No difficulty Some difficulty A lot of difficulty Cannot do at all</p>
<p>CF23. How often does [Child_Second_Name] seem very anxious, nervous or worried? Would you say:</p>	<p>Daily Weekly Monthly A few times a year Never</p>
<p>CF24. How often does [Child_Second_Name] seem very sad or depressed? Would you say:</p>	<p>Daily Weekly Monthly A few times a year Never</p>

Appendix 3: Focus group discussion guide

[Please ask the following bold question – Probes are here to encourage the conversation. Don't forget to keep a conversational style and to ensure 1) the participation of all the teachers and 2) make them discuss between them]

1- In a general way, are you satisfied and confident in the data you shared with the team?

- With a scale of 0 to 10 with 0 being less confident and 10 very confident, where are you?
 - If a “don't know” option or “escape” would have been proposed, would you have used it?
 - If yes, could you please share a specific experience/ situation to illustrate it?
- Did you face any difficulties for example related to some items?
- Were you comfortable to assess all students of the classroom?
 - If no: Could you please share a specific example, presenting the child profile (related to age, child school attendance, child difficulties...)
- Did you face any difficulties to choose amongst answer categories, for example know when answer some or no or some and a lot?
- Did you feel any difference in the way to answer between the first and the second data collection?
 - If yes, which one?

2- How did you deal with these challenges?

- E.g.: Taking break, looking at training resources, concentrating to get the child in mind...
 - Please be Honest: Do you sometimes have just to document to something that makes you look "better" in the eyes of others?

3- Tomorrow, the head teacher announces that you will have to do this exercise, meaning assessing all the learners once a year (not two as for the research), what would be your first reactions/ thoughts?

- E.g. : Ok/ Worried/ Reluctant...
 - Please explain what are the reasons of your position?

4- If you have to do it tomorrow, what would you need to facilitate/ ease this job?

- You can think about activities proposed for this research or others new things/ set-up?
 - E.g. Training, tablets for data collection.... OR plan free time, collective exercise with others teachers, leave the child answering by themselves, reduce the number of pupils...

5- About the teachers' training, what was the added-value in your opinion?

- Would have you answered in the same way without the training?
 - If yes, could you tell me why?
 - E.g. : understanding the question, it changes your ideas/ attitudes towards children with disabilities potential...

6- Would you be interested in getting the results for your classroom, meaning a list for example gathering your answers and maybe with a code color highlighting children identified with some difficulties?

- If yes, to do what? Why would it be useful for you?

7- And would you see any utility to gather all this information at district or even national level?

- If yes, could you please be explain more precisely to do what?

8- You may be aware that for this research, the same questions were asked to some parents or close caregivers and even to the children themselves above 12 years-old. In your opinion, what will be the level of agreement between teachers reporting compared to parents?

- E.g. : High/ Poor/ Medium

9- At the end, do you think teacher are “good” proxy to identify children with disabilities in their classroom?

- If yes > Could you please elaborate to explain your answer?
- If no > Could you please elaborate to explain your answer?
 - E.g. not our role, not enough knowledge about kids, too much sensitive to assess kids...

10- Would have you answered in the same way before this research?

11- Are there any additional suggestions/ideas you would like to share at this time? Anything else to add?

[Then summarize main points raised during the FGD]

Thanks for your participation & commitment to this research! We will come back to you with main findings certainly in June. Take care.

Appendix 4: Case studies

Case Study 1: A male teacher, Bujubuli primary school

How has the CFM-TV tool changed your overall outlook of learners?

There were some learners with different learning difficulties and yet I had not identified them and this tool gave me that skill to identify them. For example, I have a learner with visual impairment and whenever he is reading a text, he twists his head to the side. You might think that he is looking aside and yet he is seeing the word and I had never noticed or paid close attention to it until the tool. Then, I realised that once the learner is identified and you try to come closer to them, they become indeed very happy because the teacher has picked interest in them. I have noticed that, if you move the child from his initial position to a better spot, they become quite active.

Because of the CFM-TV, I have introduced various teaching methods like total involvement of learners and peer learning. I also make sure a child sits with someone who can help him learn better.

Before the introduction of the CFM-TV tool, were you aware that you were supposed to assess learning with difficulties?

We were aware but lacked the skills to assess the child. We could not use methods we had no idea on and that is why after CFM-TV training, I was well placed to assess the learners and did it diligently.

How has the CFM-TV Shaped your practice?

It has eased my work because if you involve the child, your work is lessened. If it is a practical lesson, learners take charge and my work is to guide them.

Absenteeism has reduced because learners have started enjoying my lesson now. You know, if a child is teaching another, they enjoy the exercise and look forward to the lessons daily. Recently, we had a mid-term test and the performance was average, but now at end of term, I can tell you that the performance has improved tremendously because the best in midterm was 36 and now the best is 96. CFM-TV helped me change my practice because, after assessing the learners, I shared the results with my co-teachers in the class and together, we came up with the best strategy to help the learners with difficulties. We changed sitting arrangements, placed learners in groups and adopted a one on one with learners.

Which part of the tool interested you the most?

The question on concentration and remembering was interesting in this way, maybe all those that repeat class or perform poorly are those that forget easily or don't concentrate. Or, poor performance means that they learn but don't remember and they have very low concentration.

Then the last one was on nervousness. Honestly, we used to have learners who sit in class from morning to evening without saying a word to a fellow learner or participating in class and you wonder. Then you start asking the child that; *how do you stay at home, how many members do you stay with, do you have both your parents?* All these questions you ask to try and know why the child is nervous and he tells you that at home, *"I am the head of the family, I stay with my other siblings and our parents went for work somewhere"*. So, after learning all the needed facts about the child, we design a strategy to handle them and if it is beyond, we visit their bio data and call the parents to ask how often they visit these children and if they can increase the number of visiting days. So, when the parent sees that you are very close to the child and the children also see that you care so much about them, they open up.

When did you start picking interest in your learners?

After the first assessment, I started picking interest in my learners, then after the second assessment, I became even more serious. There is a child who is always sleeping in my class. So, when I inquired why, the child shocked me with his revelation. He said they own a bar at home and most times he is the one selling alcohol as his mother attends to domestic chores. And with bars, they can even go beyond mid night because the mother wants money and the child gets little time to sleep. The only uninterrupted space for the child to sleep is the classroom during lesson times. When I spoke to the parent, she claimed that she needed money to buy scholastic materials and the child must work.

Which question teased you the most?

The question on seeing. You can see someone with glasses but he tells you that he is unable to see clearly, and that confused me even more. Imagine you assess a child and his eyes has no problem but the child still complains that they cannot see well and that disturbed me a bit. I couldn't bring my self to imagine that someone wearing glasses can complain that they are not seeing well.

Why is it important to identify children with difficulties?

It is very important because, all children are equal and if these children are under looked, and not attended to, then the government would have lost much because these children are very many. Therefore, we shouldn't leave any one behind, we have to help them. There are many people with disability helping the country, if they were left out, would they be in those positions?

There is one teacher who said something that got me thinking. He said that, if you write *very poor* in a learner's book, it means the teacher is the one who is poor because probably the methodology he applied was poorly tailored to the needs of the child. Even when giving feedback, it is paramount to avoid comments like *very poor* and *very dull*, and adopt comments like *improved*, *work harder*, *do better next time*, *good attempt* and other positive criticisms.

Closing remarks

Let this tool be introduced nationally for everyone and even in the community targeting caregivers. There are very many children with difficulties that are *hidden, abused and maltreated* because they are not considered normal, they *hide them behind the house, toilets, in the bush and in all those isolated areas to avoid physical contact with people*. Introduction of the tool in all learning environments will make a great change to the whole country and how people treat and view children with difficulties.

Case Study 2: A male teacher, Bukere primary school

How has the CFM-TV tool changed your overall outlook of learners?

The CFM-TV tool has helped me to become aware of certain learning difficulties that learners have apart from physical impairments. For example, I had no idea that "change in daily routine" was a learning difficulty and I punished children for refusing to do certain things in class because I thought they were being indisciplined. All these became clear after getting introduced to the CFM-TV. It feels as though my eyes opened to a new reality that all learners are unique and must be treated as such. Now, I look at my learners differently and before I rule out a case of bad behaviour, I take time to understand them, thanks to the tool.

Before the introduction of the CFM-TV tool, were you aware that you were supposed to assess learning with difficulties?

To be honest, I was aware because we always capture learner details at the beginning of each term. What we capture are general information and it is a yes or no response on the section of special needs. Our assessment is different from the CFM-TV because your tool asks serious details about the child like how to make friends, how to remember things, change in routine and other things, which to me was a new and interesting experience. The tool made me doubt myself in so many angles. For example, how could I teach a learner for a full year without knowing their name? So, because of the tool, I challenged myself to know all my learners by name and I can report that I achieved that goal as we speak.

Did you face any challenges assessing your learners with the CFM-TV tool as regards to the paper-based methods you used?

I did not face any major difficulties with regard to the CFM-TV. In the beginning though, when the concept was introduced, I was scared and less confident in myself because the training also came with a smart gadget. I wondered how I would operate that device and find my learners in it? But all the worry became history after participatorily going through the questions and how to operate the device.

What has changed now?

The way I handle my learners with different difficulties has since changed after discovering and appreciating that my class is diverse. So, instead of punishing a learner like before, I now find ways of engaging with them in learning. For example, learners who have difficulties in seeing, I put them in front and those who have a difficulty seeing when seated at the front, I put them behind so that they can see well. Then, I am discussing with our school administration to level the grounds to promote a safe environment for all learners.

How has the CFM-TV shaped your practice?

After appreciating that my classroom is diverse, I changed my way of handling the learners. Nowadays, I no longer punish learners any how before understanding them. And because of this tool, my interaction with learners has changed and I can comfortably tell you which of my learner has a learning difficulty, or a problem with friendship, or the stubborn one. So, this tool has shaped my teaching methods and now I use different learning aids ranging from bold letters, pictures, songs and role plays to help my learners remember. And since the introduction of the new learning aid, all learners have changed. They are interested in my lessons and the one who used to get $1/5$ is now getting $3/5$, which to me is a plus.

What section of the tool surprised you the most?

There was a response option that “cannot do at all”, which surprised me the most. I had never heard of that one because how can someone fail to do at all? So, what came to my mind was that maybe there are some people who can do a little but not cannot do at all. Later I understood that some people may fail to hear even when using a hearing aid.

Teasing Question

The question that teased me the most was the Likert scale asking how well I know the learner, because I think you cannot know a learner at 100%.

Closing remarks

I would like to thank HI for this CFM-TV tool. The way I see this tool, if introduced in all schools in Uganda to assess learners, it will go a long way in improving teaching. So, I recommend that the tool be adapted use by all teachers and schools.

Case Study 3: A female teacher, Mukondo primary school

How has the CFM-TV tool changed your overall outlook of learners?

The tool helped me to know that the pupils own the class and are free to touch the learning aids on the wall. For example, I have a child with a mental problem and when he comes into the classroom, he wants to touch the learning aid and unlike before, I now allow him to touch it freely without any problem. I used to shout at him and he runs out of the classroom crying. The tool has made me more friendly and nice to the kids because I had initially owned all the learning aid in the class room with strict instructions not to touch, how I was wrong. With this tool, I understand the value of inclusive learner assessment, so I have changed my outlook of learners and allowed them to own their class.

Before the introduction of the CFM-TV tool, were you aware that you were supposed to assess learning with difficulties?

In an inclusive school, assessment is mandatory but not in detail like the CFM-TV tool. I never cared about learners with difficulties because we were expected to assess all learner performances equally. But even still, I rarely assessed these learners. So, I faced a challenge with these learners with learning difficulties, I call them time takers because the moment he or she has a challenge in learning and capturing things, they lose interest and waste a lot of your time. So, I wouldn't bother or take time to help that learner and the learner could repeat the class several times and I find that I have not achieved any goal. But since the CFM-TV, I have created a teacher pupil relationship where the learner can raise their concern, when a child is annoyed, he is able to come to my desk and tell me what happened. I have since learnt that each child has an individual difference and that I should know how to handle each case independently. So, whenever a child comes to my class, he or she knows that the class belongs to him and if the class is not swept, the learners sweep and arrange the class. Therefore, I have created that relationship and friendship with my class.

Was this relationship existent before the CFM-TV?

I was posted to this school last year but to tell the truth, I had this negative attitude towards people of concern. This time however, things are changing for the better because after the CFM-TV training and assessment, I challenged myself to know these children a little more, and I can positively state that this time we joke, play, jump and dance together without any reservation. Mine is a model class now where learners feel at home and surely, I feel at home too and I am convinced that I am where I should be now.

How has the tool shaped your practice?

When I was trained, I came to the realisation that these learners with disability are also needed in the society. Whenever they come to class, I made them sit in the back seat and systematically avoided them. After the training, I look for a seat nearer to the board for them to see because I feel bad for treating them less. Do you see how my class room sitting plan is arranged? Those two seats at the front are for learners with difficulties for easy monitoring because I have to look at their eye and hand movements. So, immediately after teaching, I look at their books to see how they performed, wrote and which areas for further attention. And all these changes happened after the first CFM-TV assessment. The tool has been an eye opener and a good practice check to me honestly.

What section of the tool interested you the most?

At first, I did not think that when teaching life skills and values I should cater for these learners who are nervous in life. So, when I read that question number 12 on anxiety, it shocked me to say the least. Now, whenever I am teaching, I go an extra mile to understand how a learner can become anxious or worried, and the things triggering that. This question surprised me a lot because, we used to neglect those things before the introduction of CFM-TV, we could see them as time waters, I never minded, bothered or even took time to think about anxiety any time. But now I go deep to understand why a particular learner seems worried all the time.

Have you encountered any learner with anxiety since the CFM-TV?

Yes, there is this child called kitty [not real names], even today he was very anxious because yesterday he missed the exam. So, I tried to inquire why he seemed anxious and worried and he came and whispered to me that, "you know I missed the exam yesterday", and I told him don't mind because after this exam, you will do the one you missed. The boy became so happy and at that point I saw a totally different learner. Then, I related it to CFM-TV and said ooh, I had even neglected that part, so I have to go deeper in understanding these children.

Which question teased you most?

There was a question on mobility that teased me a lot. The question was asking that, without the use of his equipment does name have a difficulty walking? With this question, I kept wondering how someone who is not lame can have a difficulty in walking? But I later understood that, a person may not present physical signs of disability but still have a difficulty in walking, something we may not see with our eyes.

Why is it important to identify children with difficulties?

It is very important because, it helps me to address the individual differences a learner faces and tailor the learning materials to the needs of each child in my class.

What changed since the introduction of CFM-TV

I am proud and a bit different from those who have not been trained. I am better positioned to care for learner needs and I also learnt to enter electronic data.

Closing remarks

I want to thank HI for the knowledge and training on CFM-TV. HI should also train other teachers to assess learners and build the winning relation with learners the way I have built.



**Disability Data in Schools:
Testing the Child Functioning Module – Teacher Version
(CFM-TV) in Emergency and Protracted Crises**

This document presents the findings of a research aiming to test the Child Functioning Module – Teacher Version (CFM-TV) in challenging contexts. Results highlights how teachers can effectively use the questionnaire to assess students and generate reasonably reliable disability data as proxies. The CFM-TV demonstrates also tangible benefits, such as positive changes in teacher attitudes and practices, along with unexpected improvements in learner dynamics and participation. The research finally shows how the CFM-TV can be a promising tool in supporting inclusive education efforts in such difficult situations.

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