Educational technology in support of assessment

Amy Ogan
Thomas & Lydia Moran Professor of Learning Science
Carnegie Mellon University



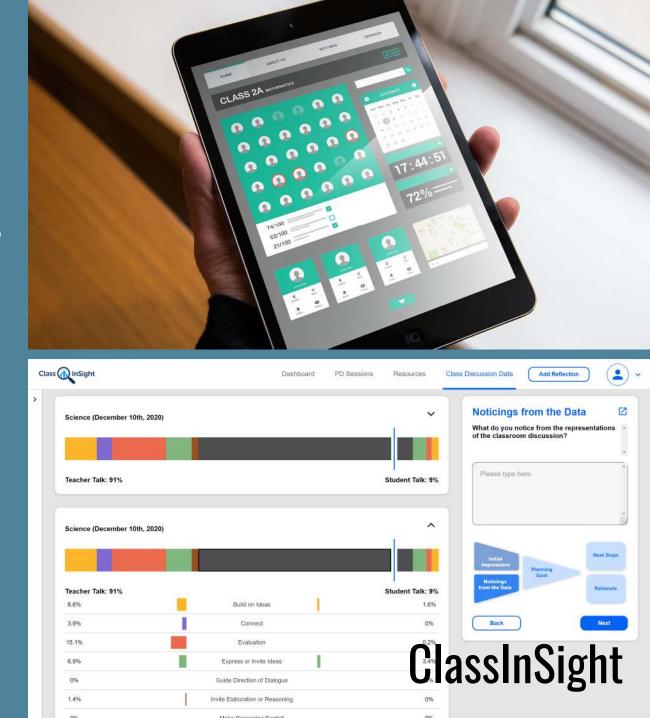
# Digital (adaptive) environments

- Captures important data for learning analytics
- Across modalities/ infrastructure: voice, text, physical, etc.
- Can help adjust instruction



# Dashboards for formative assessment

- Formative assessment identifies outcomes of variability while there is time to support
- Tech can support teachers in finding invisible patterns in data
- Research shows teachers use that data to plan lessons and adjust instruction



# Games-based (stealth) assessments

- Alternatives to standardized assessment for knowledge demonstration
- Supports learners with test anxiety, stereotype threat, novice learners
- Allows identification of (dis)abilities that are challenging to assess or observe



### Educational technology in support of assessment

Collaborators: Fabrice Tanoh, Axel Blahoua, Adji Yves, Hermann Akpe, Mwita Gambarage, Michael Madaio, Judith Uchidiuno, Vikram Kamath, Evelyn Yarzebinski, Kaja Jasinska, Sharon Wolf, Samuel Kembou, Ken Koedinger, Jack Mostow, Kevin DeLand, Neil Thawani, Tim Brown, Justine Cassell, Ryan Baker, Erin Walker, Genaro Rebolledo-Mendez, Maynor Jimenez, Ignacio Casas, RAs in the OH!Lab, multiple Ministries of Education, teachers, students, & parents, and many more.

### Amy Ogan Carnegie Mellon University



















#### Luminos has given 152,051 children a second chance at education



Our 10-month accelerated learning program supports out-of-school children to become literate and numerate, develop broader holistic skills, and return to mainstream school.

- Takes children from not recognizing letters to reading passages in just
   10 months
- Five-senses, joyful learning methodology
- Celebrates culture and community;
   brings parents into the classroom
- Phonics-based curriculum
- Helps out-of-school children (aged 8-14) become intrinsic learners







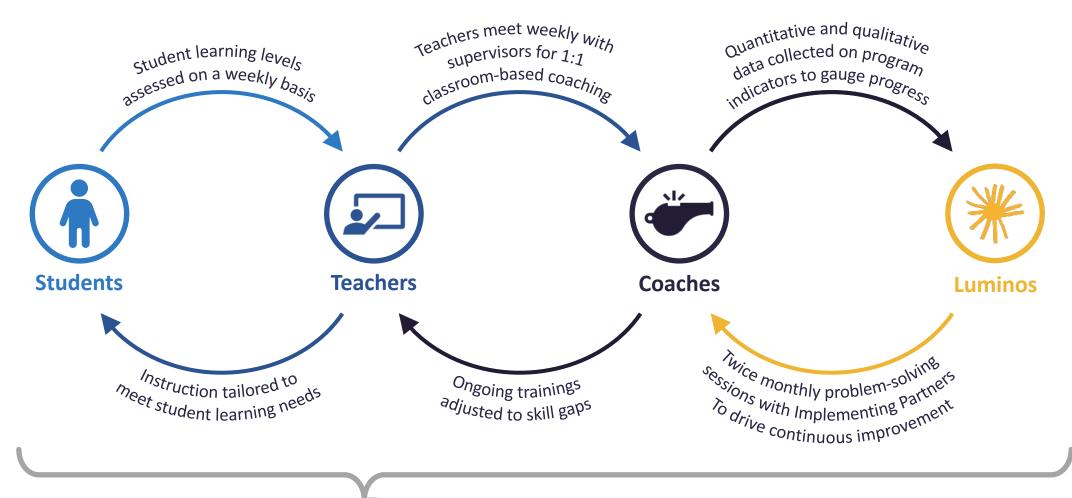






#### Luminos' approach to monitoring student progress







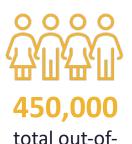
#### **External Evaluators**

Program data externally collected and rigorously analyzed to evaluate Second Chance's efficacy

#### Ghana context and program overview



#### **Education in Ghana**



school children

#### **Enrollment barriers include:**



Socioeconomic factors



Child labor



Lack of infrastructure and teachers

#### **About learning differences (LDs)**

- Out-of-school children struggle with LDs at a higher rate than those in school
- For students with reading difficulties, after the 3<sup>rd</sup> grade, only 25% of students respond effectively to reading intervention



#### **Luminos in Ghana**

- Launched in March 2022 serving 1,500 out-of-school children
- Honored to have a major grant from the Oak Foundation to support our work addressing LDs
- Partnering with Ghanaian researchers to pilot new support for Luminos students
- Advancing the global evidence base on LDs in low-resource contexts



### Key questions we're considering in Ghana





- What factors limit learning progress for some students in the Luminos Ghana program?
- Of Luminos children that are struggling to learn, which students may be struggling due to a specific LD and what are these?
- What types of support do these children require to ensure we're unlocking the potential of all learners? Which of these supports can Luminos provide?
- What are parents/caregivers and teachers' beliefs and attitudes on LDs?
- What, if any, role can parents/caregivers and teachers play in identifying and supporting children with LDs in Ghana?

#### Initial learnings and take aways





 Quality teacher training materials for LDs exist for our context – we don't need to reinvent the wheel.

- Screening <u>does not</u> equal assessment. Screening
  provides a sense of whether a child is struggling.

  Assessment is conducted by a trained professional
  who may identify a specific LD.
- Screening is challenging in low-resource contexts –
  reasons why a child may not be learning might
  include low quality education, malnutrition, exposure
  to abuse/trauma, language of instruction, lack of
  sleep, or LD.





#### **Thank You**

#### **Donnalee Donaldson**

Senior Director of Programs
<a href="mailto:donnalee@luminosfund.org">donnalee@luminosfund.org</a>

www.luminosfund.org

### Schools 2030 Global Forum Aga Khan Foundation

#### Global Forum Held from 21st - 23rd June 2022

#### Dar es Salaam Serena Hotel

#### PRESENTATION ON:

RT 7: Measuring learning variability: How might we support teachers to use assessment to understand the diverse learning needs and pathways of their students?

EZRA NTAZOYA – Archibishop Mihayo University College of Tabora (AMUCTA)

& JUMA NDABHAGILIYE - Buhongwa Secondary School Mwanza City



#### Introduction

#### **Project Name:**

Enhancing Learning of Deaf Children in Inclusive Secondary Schools from 2020 to 2023(ELDC Project)

Project Goal: Enhancing Learning of Deaf Children in Inclusive Secondary Schools

**Project Object 4**: Deaf students in 25+ inclusive secondary schools are diagnosed; their learning needs assessed and are effectively supported with appropriate learning tools within three years of the project implementation.

#### **Outcome 4:**

Deaf students access diagnostic and learning needs assessments.

#### **Expected outputs:**

- ☐ Deaf students access diagnostic and learning needs assessments in inclusive secondary schools, with adequate special needs education teachers to support their learning paths.
- ☐ Teachers from the 25+ inclusive secondary schools are competent and provide learning and stage appropriate-emotional and academic interventions for deaf learners.





Designing and adapting learning needs assessment tools which will be used for diagnostic and learning needs assessment among deaf children in 25 inclusive secondary schools.

1. 2 rounds diagnostic and learning needs assessment among deaf students in 25 inclusive secondary schools in Tanzania.

iii. 2 rounds of coaching teachers in 25 inclusive secondary schools on how-to carry-on diagnostics and proper assessment of learning to deaf students.

iv. 2 rounds of coaching teachers in 25 inclusive secondary schools on how-to carry-on diagnostics and proper assessment of learning to deaf students.



Sample of a screening tool

Class	s		
Scho Oate	ool//20		
S/N	Speech Impairment	Yes	No
	Does the child have difficulties in articulating words? (Establish simple and short conversation with the child to observe this e.g What is your name?		
	e.g What is your name?  the child have difficulties with the pitch, volume intonation, or  the child have difficulties with the pitch, volume intonation, or  the child have difficulties with the pitch, volume intonation, or  the child have difficulties with the pitch, volume intonation, or  the child have a large an interruption in the flow of speech/child have a large an interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and interruption in the flow of speech/child have difficulties and difficulties and difficulties are difficulties are difficulties and difficulties are difficulties.		

Town is the child be could be

	mading, writing and ameanings pro	ope with the	
SIN	Language, reading, writing and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words of the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words and their meanings produced by the child use words of the	Final Results Form	1
1	Does the child use the daftari) (establish dards co	Form	
1	le o kitable moter ability to use "	T Pr	
	4 11 1 10 111011111	/ NT	
	child to ideas.	LV	

No

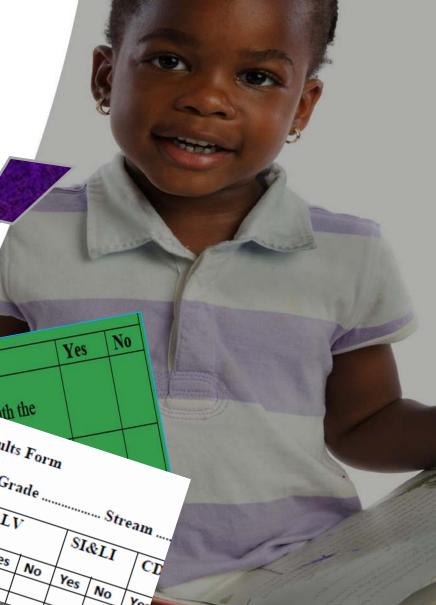
child to identify

is the child able to express ideas?

Is the child able to express ideas?

(ask few questions that will make the child able to use appropriate language)

Is the child able to use appropriate language.





#### **Aspects Assessed**

#### **MEMORY TEST**

- Memory was assessed using special Recall Bocks
- ❖ The tool tests the extent to which a child can remember by recalling the arrangement of the blocks in their series.
- An instructor points to a block(s), then the child do the same
- ❖ It is from level 1(one block) to level 9(nine blocks)
- The blocks has numbers that guide the instructor
- This tool is interesting as it is done as a game

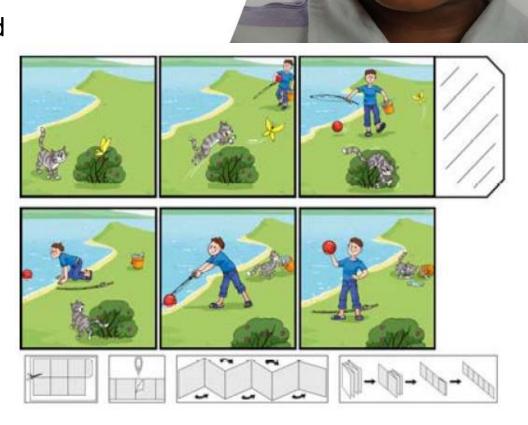




#### **MAIN** – Multi Assessment Instruction for Narratives

- -Telling or retelling a story on the basis of six coloured pictures
- Questions on understanding and assessing language production
- Suitable for testing in multiple languages

(with a maximum of 4 stories)







A teacher at Muungano Inclusive Sec school testing a student on language comprehension





#### **Audiology Test**







### Teachers at Tanga Secondary School testing a student after being capacitated by AMUCTA staff



What we do after diagnostics with the administered tools

✓ We write a report that is shared to schools, government and donors

✓ We disseminate the findings to stakeholders including the Government

✓ We publish the findings of the study

✓ We plan with teachers the suitable interventions to help the learners with diverse needs

✓ We work with other partners working on the same areas of specialization

✓ We also engage the parents through the teachers on how to accommodate some of the challenges faced by these learners





# Schools2030 Global Forum in Tanzania

# SERENA HOTEL-DAR ES SALAAM A PRESENTATION BY JUMA NDABHAGILIYE

FROM
BUHONGWA INCLUSIVE SECONDARY SCHOOL
MWANZA

### HOW TEACHERS ARE SUPPORTED

- Teachers are trained to identify hard of hearing and deaf students.
- Teachers are trained to understand features of deaf and hard of hearing students.

# Features for identifying deaf and hard of hearing students

- Difficult in language and speech development
- Difficulty following verbal directions
- ► Difficulty with oral expression
- Easily frustrated if their needs are not met etc.

### Learning environment

- should be conducive and attractive to the learners
- should not be noisy
- Classroom should not be congested to allow maximum practice
- The sitting plan should be favorable for leaners to visualize what one does in front

### Learning methodology

- Depends on learners diversity to make choice of the method to be applied
- Visual and practice based approach use of pictures, charts. diagrams, drawings realia and models
- Practice based teaching providing exercises

### Teaching strategies to apply

- Pre-teaching Introducing lesson Objectives before teaching session.
  - Provision of learning materials prior to
  - teaching.
  - Clarification of key words.

Re-teaching
 Going through all activities after teaching
 Check effectiveness of the lesson
 Identifying the challenges encountered
 Re-teach part of the lesson that was not

understood by students

## Learning Activities held by Teachers and Students



# Students practicing under guidance of Teachers



# Students sharing experience with Teachers



# THANKS WELCOME IN MWANZA