

# Driving Foundational Learning with Tangerine: From Insight to Impact

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## JOVINA TIBENDA

Actionable insights,  
anywhere.



# Background

## Context:

In the regions of Mtwara, Ruvuma, Morogoro, and Iringa and Zanzibar many early-grade pupils struggled with reading, and few reached grade-level proficiency. Further, there were limited tools to track progress, identify learning gaps, and monitor attendance.

## Anticipated Solution:

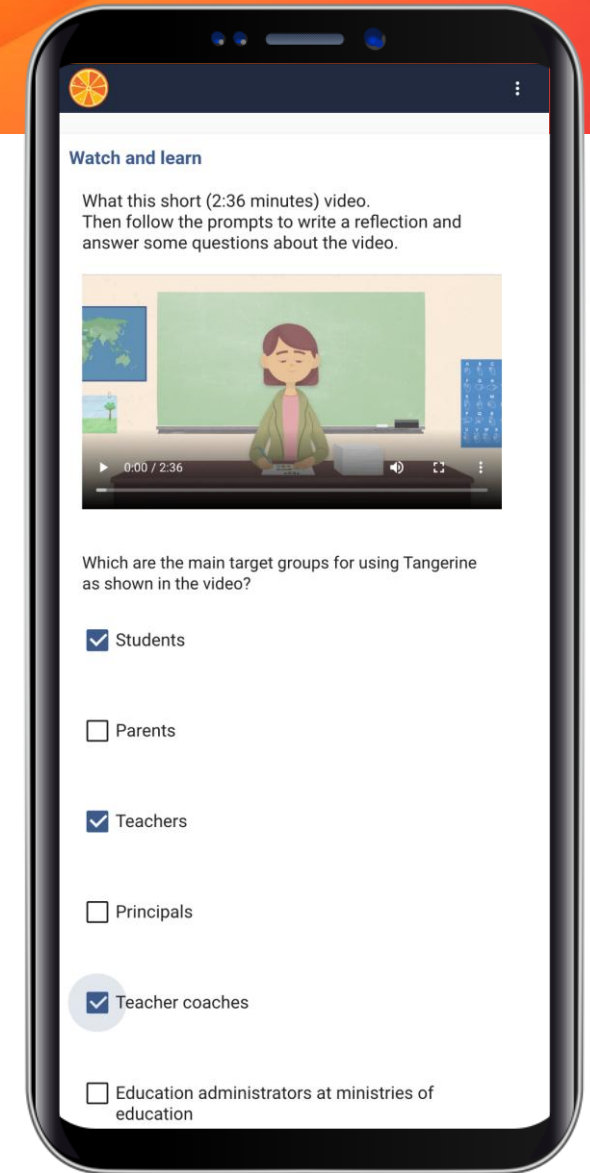
- Deploy offline-first digital system on government-issued tablets (Tangerine:Teach)
- Track key data: assessment scores, attendance, and academic performance
- Provide interactive dashboards and clear reports and tips for teachers

## Anticipated Impact:

- Enable rapid identification of learning gaps
- Deliver timely student support
- Reduce absenteeism
- Improve learning outcomes

# What is Tangerine®?

- Open-source, offline-first student assessment and teacher support software, licensed under [GNU GPL3](#)
- Supports 650+ languages and scripts
- 5M+ assessments and surveys across 65+ countries
- Adopted by 6+ ministries of education running their own Tangerine servers
- Originally developed by researchers at RTI International
- Spun out in 2025 to Tangerine Central, led by current and former RTI staff





# tangerine:teach

# What is Tangerine:Teach?

- Version of Tangerine tailored specifically to support teachers to conduct formative assessments
- Works on Android phones/tablets teachers already use
- Tracks student progress over time
- Clear student and class-level reports & guidance to improve instruction
- Supports learning assessment, non-cognitive skills, and disability screening

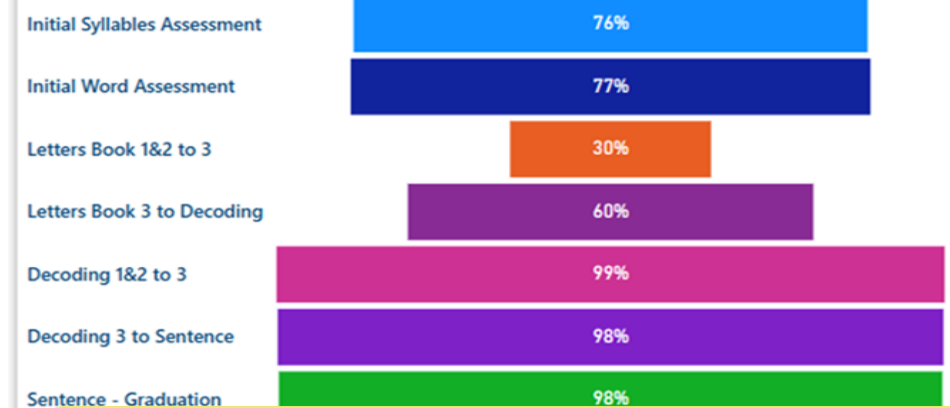


# Tangerine: Teach in Action: Reading Recovery Activity

- 2,900 schools
- 75,000 Standard 2 pupils
- 4 Regions: Iringa, Mtwara, Morogoro, Ruvuma
- Hempel Foundation-funded
- Implemented by Regional Gov'ts with support from RTI
- Key components:
  - Assess learners and identify missing skills
  - Group learners by skill level and use games to support learning
  - Track performance and skill transitioning
  - Monitor student attendance



Percentage of Pupils Transiting from one book to another book



# Tangerine:Teach in Action: Reading Recovery Activity

## Target Schools

- Selected using GALA results
- Schools with 5+ learners scoring below 50%



## Diagnose & Group

- Teachers assess learners using Tangerine:Teach
- System identified specific missing skills
- Learned auto-grouped by skill level
- Teachers receive lesson tips and strategies



## Practice & Progress

- Game-based, peer-supported learning
- Learners move groups automatically as skills are mastered
- Progress tracked through ongoing assessment



# Support for Teacher-led Student Assessment

Daraja : 1 Herufi-Morning

Chagua Ripoti

Dashibodi ya Mwanafunzi : 1 Herufi-Morning - Herufi

Chagua  
Kitabu 1 Herufi irabu 3

Mwanafunzi	Imekamilika?
<a href="#">Jovina</a>	<input type="checkbox"/>
<a href="#">Lachko</a>	<input type="checkbox"/>

- Kitabu 1 Herufi irabu 1
- Kitabu 1 Herufi irabu 2
- Kitabu 1 Herufi irabu 3**
- Kitabu 1 Herufi irabu 4

Daraja : 1A-Morning

Consonants I

Erika Jane

For each letter, show the child the letter card and say: I will show you some letters and I want you to tell me each letter's name and the sound it makes. Are you ready?  
Show each Book 1 letter card one at a time and wait (3-5 seconds) for the child to tell you the letter name and sound it makes. Then move on to the next letter.

\* b, B  
 Incorrect  
 Correct

\* m, M  
 Incorrect  
 Correct

\* k, K  
 Incorrect  
 Correct

# Grouping Learners by Skill Level

Daraja : 1A-Morning

Chagua Ripotiti

Kumuweka mwanafunzi kwenye kikundi: Vowels I

Wanafunzi Waliopimwa: 2 / 2    Wastani Sahihi: 2.5 / 5 (50%)

Kumuweka mwanafunzi kwenye kikundi

Click on a percentile to view related feedback.

Mwanafunzi	Alama	Asilimia	Hali
Erika	3 / 5	60 %	Vizuri
Paul	2 / 5	40 %	Wastani

Daraja : 1A-Morning

Chagua Ripotiti

Kumuweka mwanafunzi kwenye kikundi: Vowels I

Mrejesho

Mwanafunzi: Paul

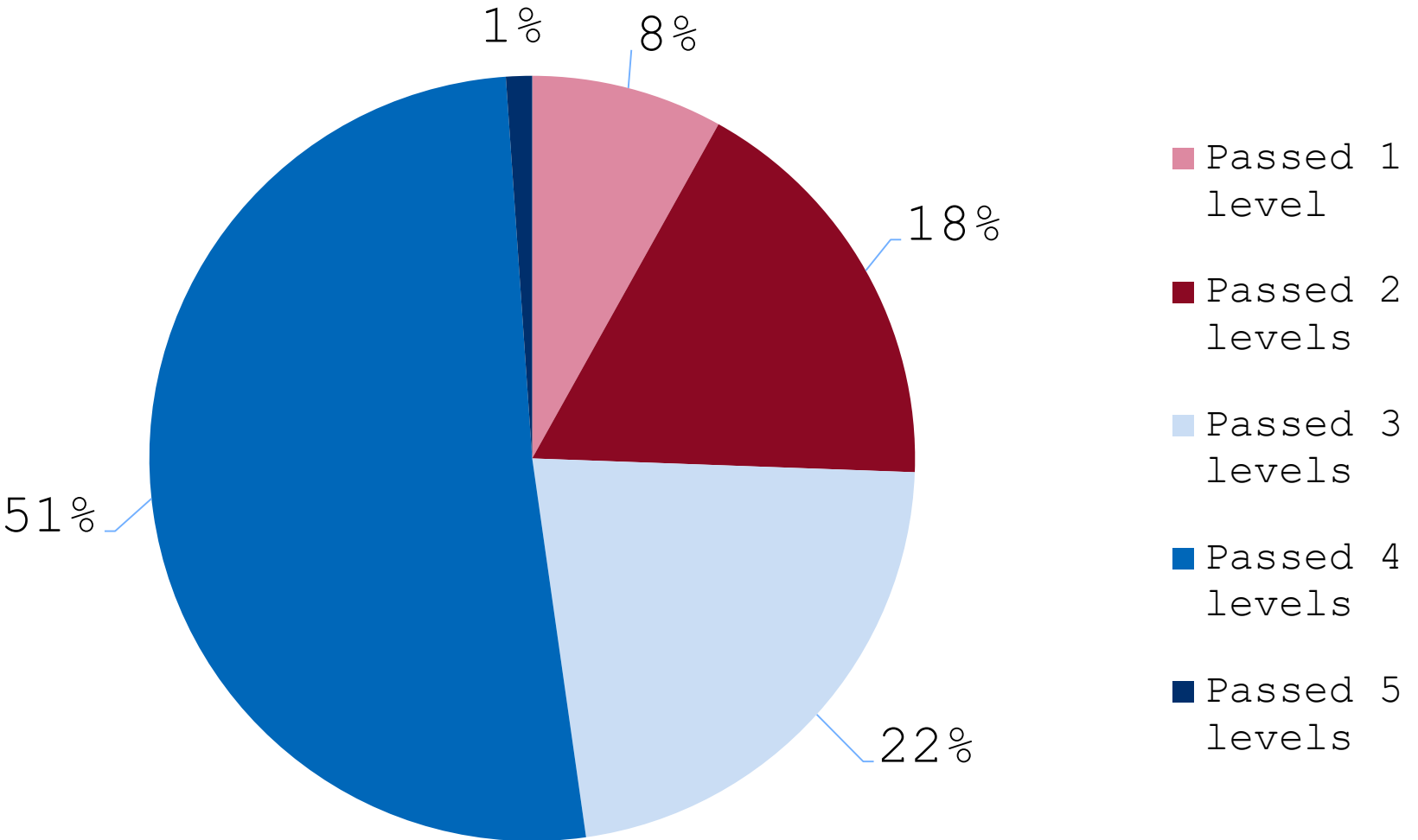
40% - 59% Asilimia

Aina ya Somo na Shughuli Ndogo	Maelezo (Somo, Mchezo, Kuandika)	Muda unaohitajika	Vitu/Zana zinazohitajika
Sauti za Herufi	<p><b>Matokeo ya Ujifunzaji: Kutambua majina na sauti za herufi lengwa</b></p> <p>Fundisha herufi ndogo kwenye kipindi cha kwanza na herufi kubwa kwenye kipindi cha pili.</p> <ol style="list-style-type: none"> <li>Andaa kadi nyingi za herufi na uwe nazo darasani</li> <li>Onesha au inua juu kadi ya herufi na uoneshe ili wanafunzi waweze kuona, unaweza pia kuandika herufi hiyo ubaoni au katika mchanga ili wanafunzi wote waweze kuiona</li> <li>Sema: "Jina la herufi hii ni... Hii ni herufi ndogo/kubwa... Katika maneno, herufi hii inatos sauti /.../."</li> <li>Wakati unapokuwa unaonesha kadi ya herufi, rudia kuwataja wanafunzi jina la herufi hiyo na sauti yake.</li> <li>Waombe wanafunzi wakujiibu swali: Herufi hii (-) jina lake nin? Herufi hii /.../ sauti yake ni ipi?</li> <li>Zipatie jozi za wanafunzi seti ya kadi za herufi lengwa na waambie wataje jina la herufi hiyo na sauti yake. Hii inafanya kazi vyema zaidi endapo ukitumia herufi 2-4 tofauti.</li> <li>Beba unakila chacha, chanaa, budi au wamba.</li> </ol>	Dakika 8-10	<ul style="list-style-type: none"> <li>Kadi za herufi ndogo</li> <li>Kadi za herufi kubwa</li> </ul>

**Skill Groups:**  
**Letter group 1** - (Vowels, Consonants 1, Consonants 2, Syllables 1&2) **Letter group 2**- (Consonants 3 & Syllables 3) **Word decoding group 3** - ( Words 1 & 2) **Word decoding group 4** - (Words 3 Sentence group 5 - (Sentence 1 to 3) **Graduation group**- back to normal class routines

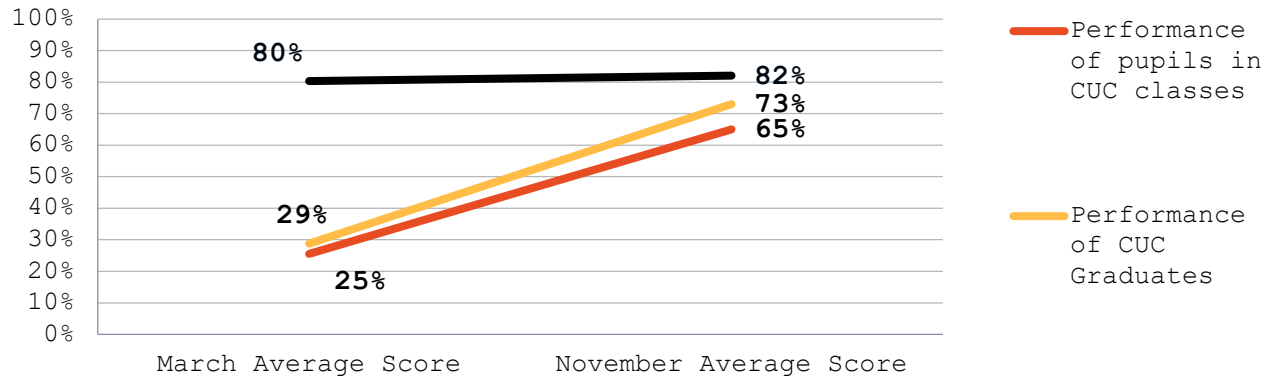
- Movement between skill groups is based on mastery not time.
- Tangerine moves learners once they score 80% or more on sub-task

# Percentage of CUC Pupils Who Transitioned Between Skill Groups

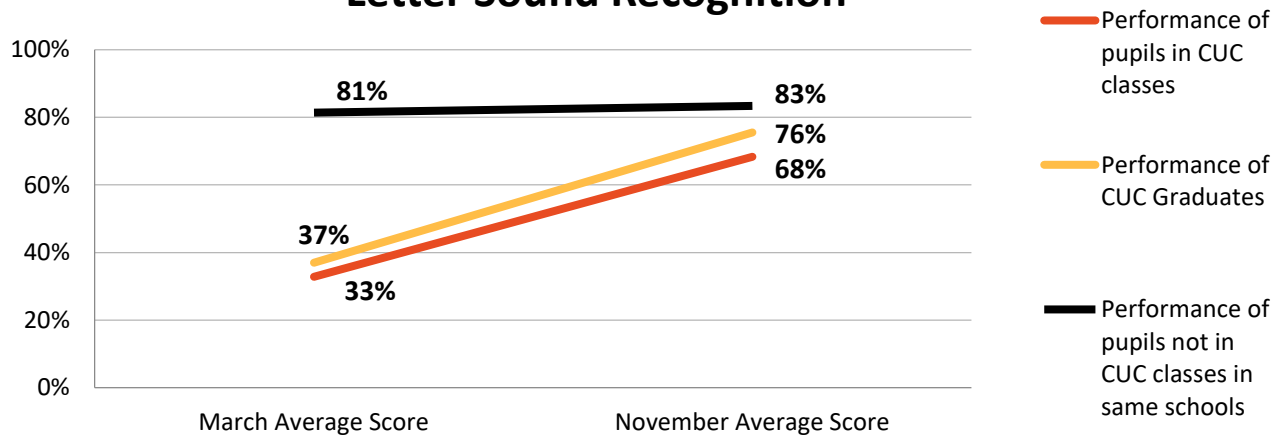


# GALA Gains for CUC and Non-CUC Pupils

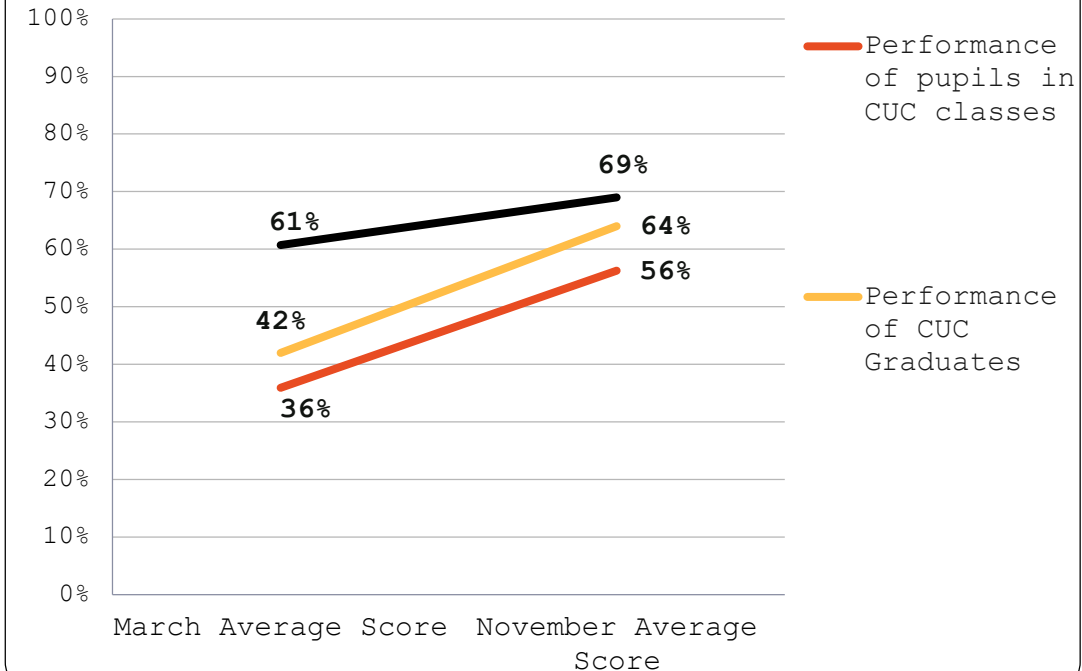
## Non-Words



## Letter Sound Recognition



## Comprehension



# Key Drivers of Success

## What Drove Impact

- Structured, skill-focused lessons sustained learner engagement
- Learner-centered, peer-supported instruction improved confidence
- Positive assessment practices reduced fear of failure/increased persistence

## Enabled by Tangerine:Teach

- Micro-assessments for easy group management
- Videos and guides for consistent implementation
- Attendance tracking for timely intervention

## System & Community Support

- Ongoing supervision and shared responsibility
- Strong government coordination (Steering Committee)
- Family engagement improved attendance
- Community volunteers supported digital learning



# Questions?

Link to report:

[tangerinecentral.org/impact](https://tangerinecentral.org/impact)

Scan for Tanzania demo version:



Jovina Tibenda, Country Director  
jovinatibenda@gmail.com

Amber Gove, Chief Impact Officer  
amber@tangerinecentral.org

# ANNEXES

# Additional Implementation Lessons

- Skill-based approach can be applied at any grade or standard
- Use EGRA-like baseline data to identify learners and form skill groups in Tangerine:Teach
- Limit remediation groups to 30 learners or fewer
- Ensure an appropriate learning environment (mats, clear space between groups)
- Volunteers or aides help keep learners engaged and on task



# Why Tangerine?

## Data Sovereignty, Security, and Sustainability

- Guarantees full data ownership by the Ministry/Organization.
- No per-student costs or recurring fees, ensuring sustainability.
- Initial training and technology transfer guaranteed.

## Adaptability and Simplicity

- Customizable forms and workflows, without reliance on third parties.
- Easy integration with existing education management systems to consolidate data.
- More reliable data and immediate analysis for timely decision-making.

## Commitment to the Public Good

- No commercial licenses: unlike other EdTech and survey solutions.
- Open source: transparency and community collaboration (improvements shared/GNU license).
- International support: proven experience in educational assessment.

# The 3 Flavors of Tangerine



Used in large-scale, anonymized assessments and surveys.



Longer assessments and surveys, administered by data collection teams.



Results are synchronized to Tangerine's server and analyzed in aggregate.



tangerine:teach



Used in-class by teachers or support staff to track individual learning over time.



Shorter assessments conducted throughout the school term.



Results are stored on each tablet and accessible in simple graphs and tables.



tangerine:coach



Used by coaches during school support visits.



Rapid assessments, surveys, and classroom observations repeated during each support visit.



Results are used offline for immediate teacher feedback and online for progress reports.

# Why Tangerine Stands Apart

Feature		Tangerine		Others
Education Focus	✓	Designed specifically for education assessments (EGRA, EGMA)	✗	Generic tools for social/health surveys; no education focus
Offline Capability	✓	Full offline functionality; seamless server synchronization	~	Offline available, but requires manual configuration
Multilingual Support	✓	Integrated multilingual support; localized interfaces	~	Available with external configuration; limited localization
Accessibility	✓	Compatible with disability screening, sign language, and audio messaging	✗	No native features; only basic tools not focused on education
Open-source	✓	Completely open-source; no licensing fees	~	Some are open-source; others proprietary with commercial licenses
Customization	✓	Highly customizable for specific educational use cases	~	All allow customization, but vary: from flexible design to basic configurations without an education focus
Licensing and Costs	✓	No licensing costs or recurring fees (if self-hosted); support available via paid subscription	~	Some are free; others require a commercial subscription