Dosage and feed-forward information loops: Maximizing the effectiveness of cascade teacher education in Uzbekistan

Uzbekistan Education for Excellence Program

March 2024

Overview

- Project overview
- TPD framework
- TPD Approach
- TPD findings
- Student outcomes

Quick overview of the project?

- Uzbekistan Education for Excellence Program of USAID

- December 9, 2019, to March 31, 2024

- RTI, Florida State University, Mississippi State University

- Counterparty: Ministry of Preschool and School Education

- Overarching results:
  - 1. Improved Uzbek Language Arts (ULA) and Mathematics outcomes in grades 1–4;
  - 2. Enhanced information and communication technologies (ICT) instruction for grades 1–112; and
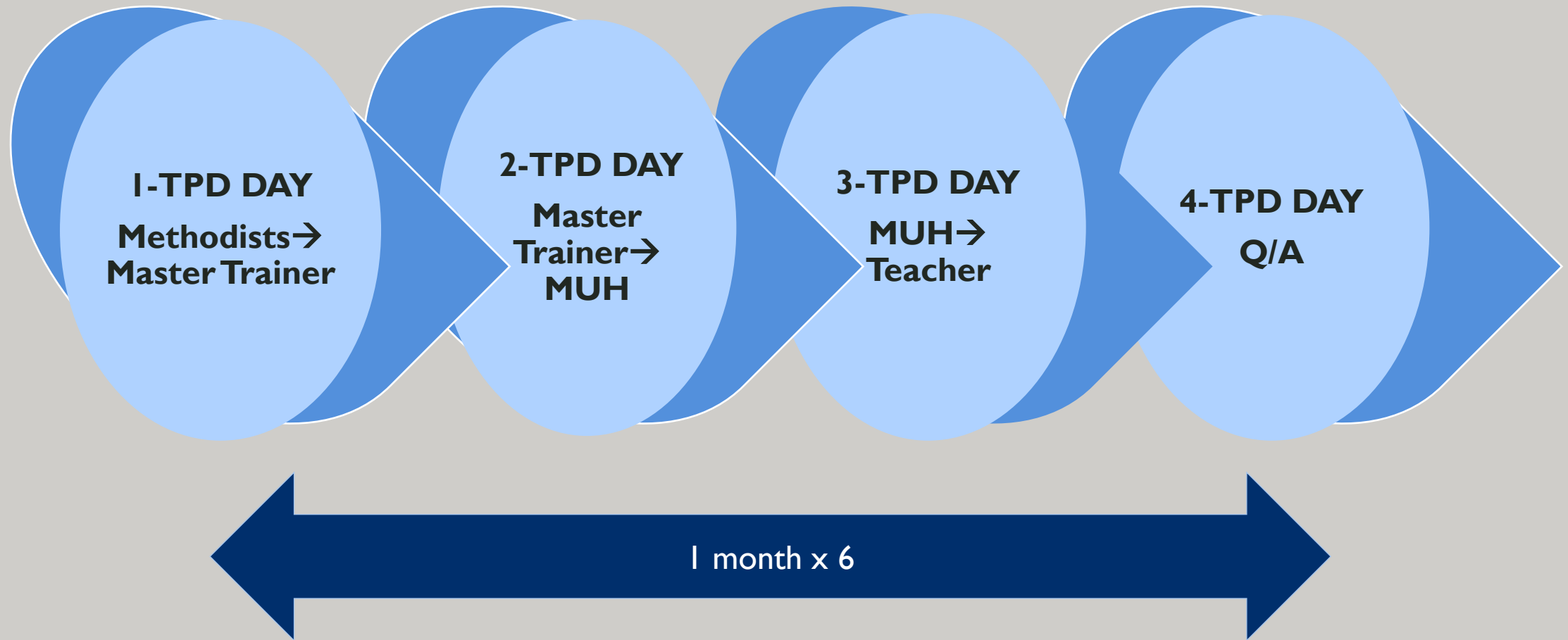 - 3. Improved English as a foreign language (EFL) instruction in grades 1–11.

Guiding framework: Modified Kirkpatrick Model of Evaluating Training

- Satisfaction
- Knowledge
- Self-efficacy (modification)
- System support (modification)
- Application
- Impact (learning outcomes yay!)

Training and Practice

Cascade through Continuity and Regular Dosage through Methodological Days

1-TPD DAY
Methodists→
Master Trainer

2-TPD DAY
Master Trainer→
MUH

3-TPD DAY
MUH→
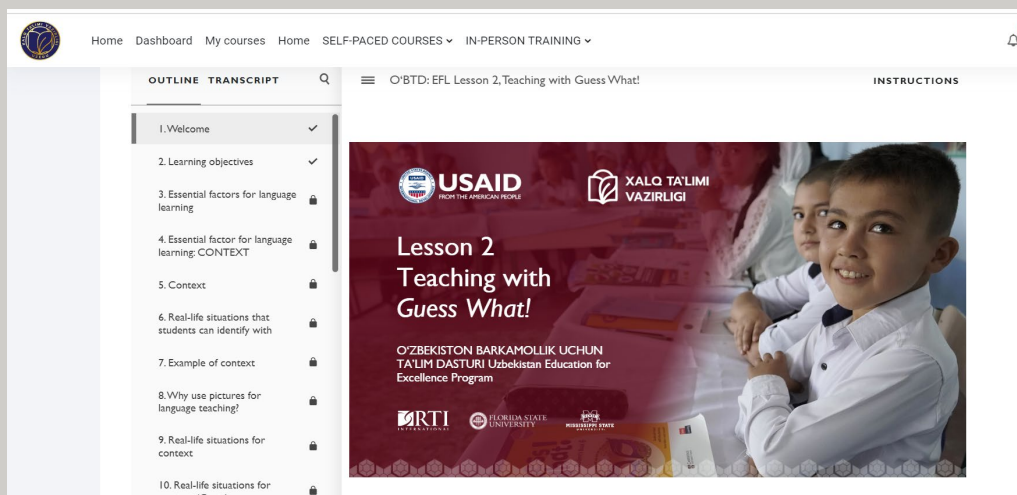Teacher

4-TPD DAY
Q/A

1 month x 6

Evidence through a continuous feed-forward loop: ULA/Mathematics

- Training Quality Assurance
  - Satisfaction survey
  - Post-test
  - Self-confidence
  - Monthly trainer observations
- Action Research
  - Was the training effective?
  - Did teachers apply 21st century skills?

Resources

- Facilitator guides

- Slides w/ scripts

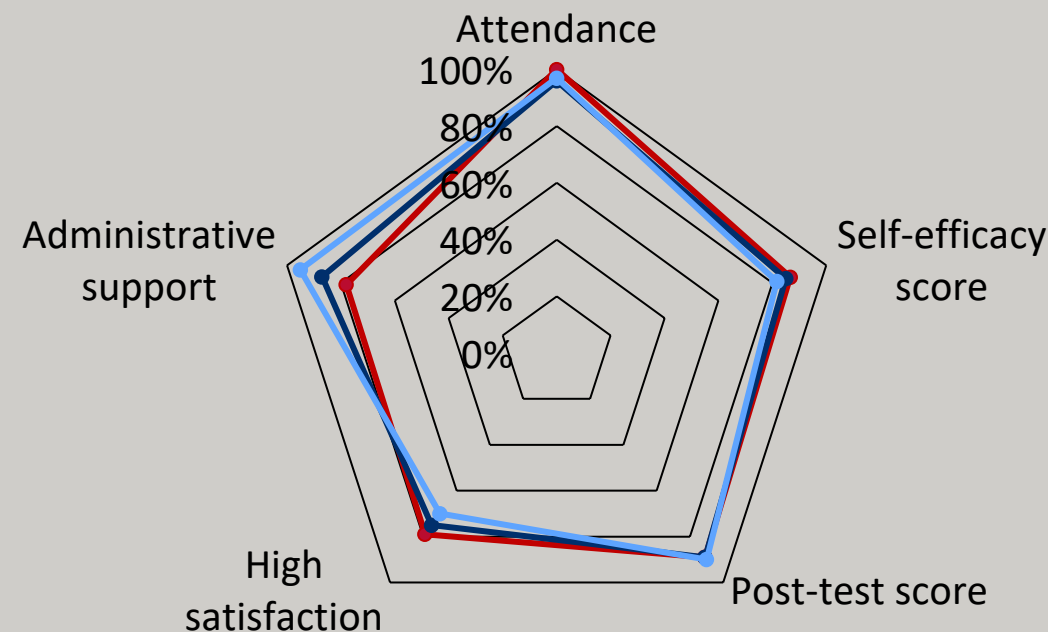- E-learning courses

https://ebilim.uz/

Participant Satisfaction
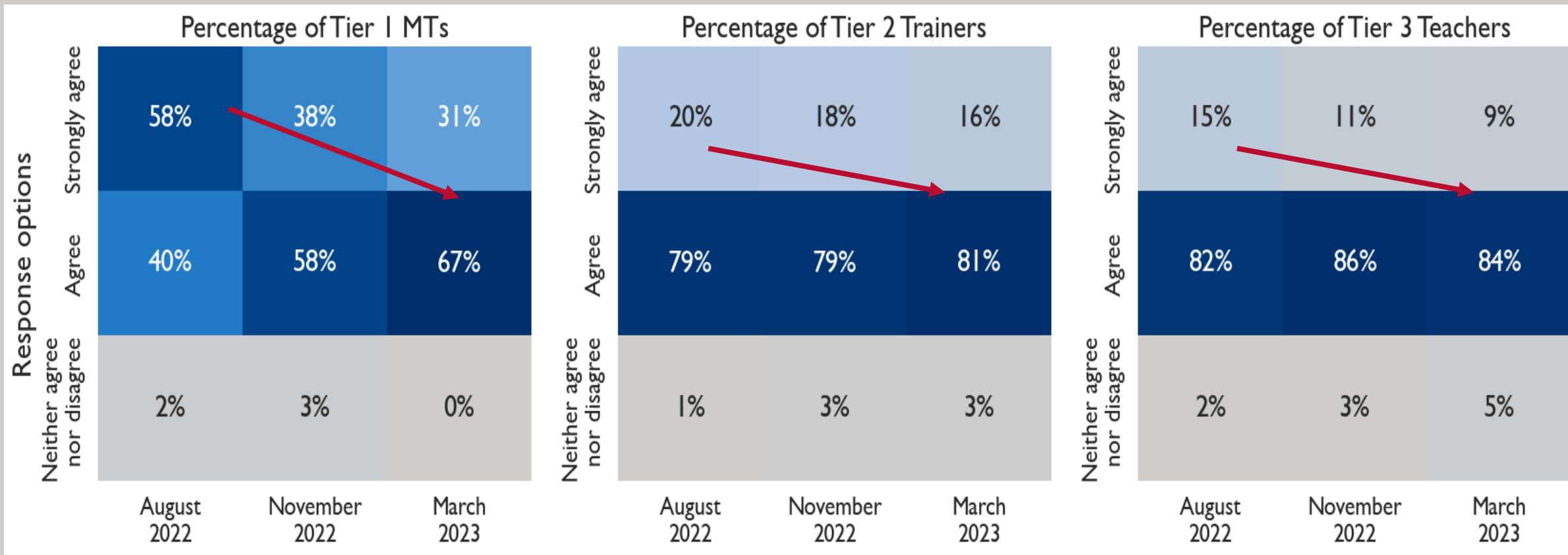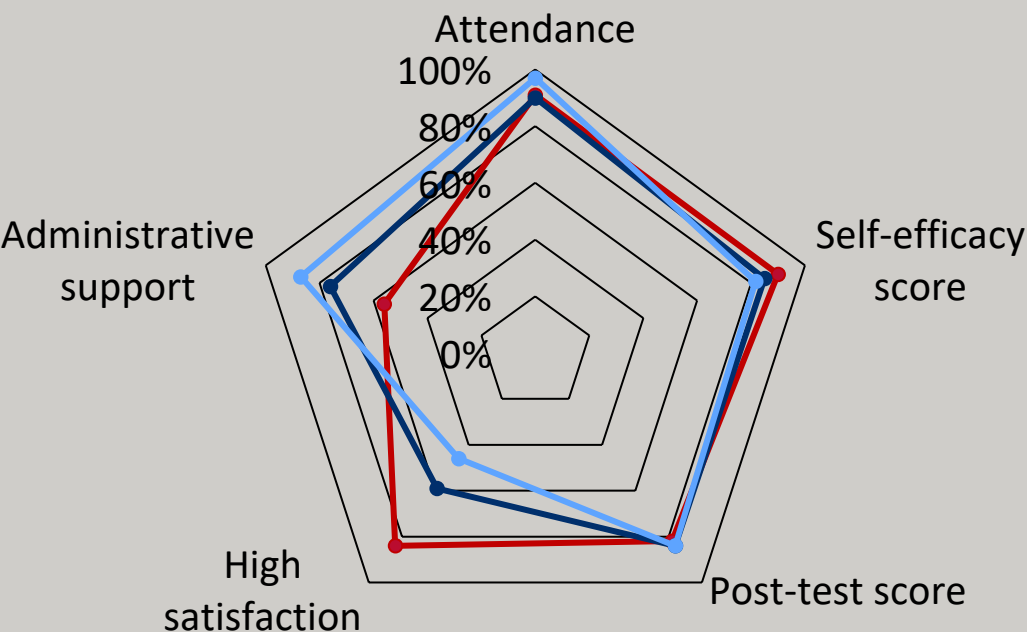
Self-efficacy, Admin support, and Post test

August 2023

Tier 1 — Tier 2 — Tier 3

March 2023

Tier 1 — Tier 2 — Tier 3

Observed desired trainer behaviors (math)

Desired trainer behaviors by mathematics lesson component
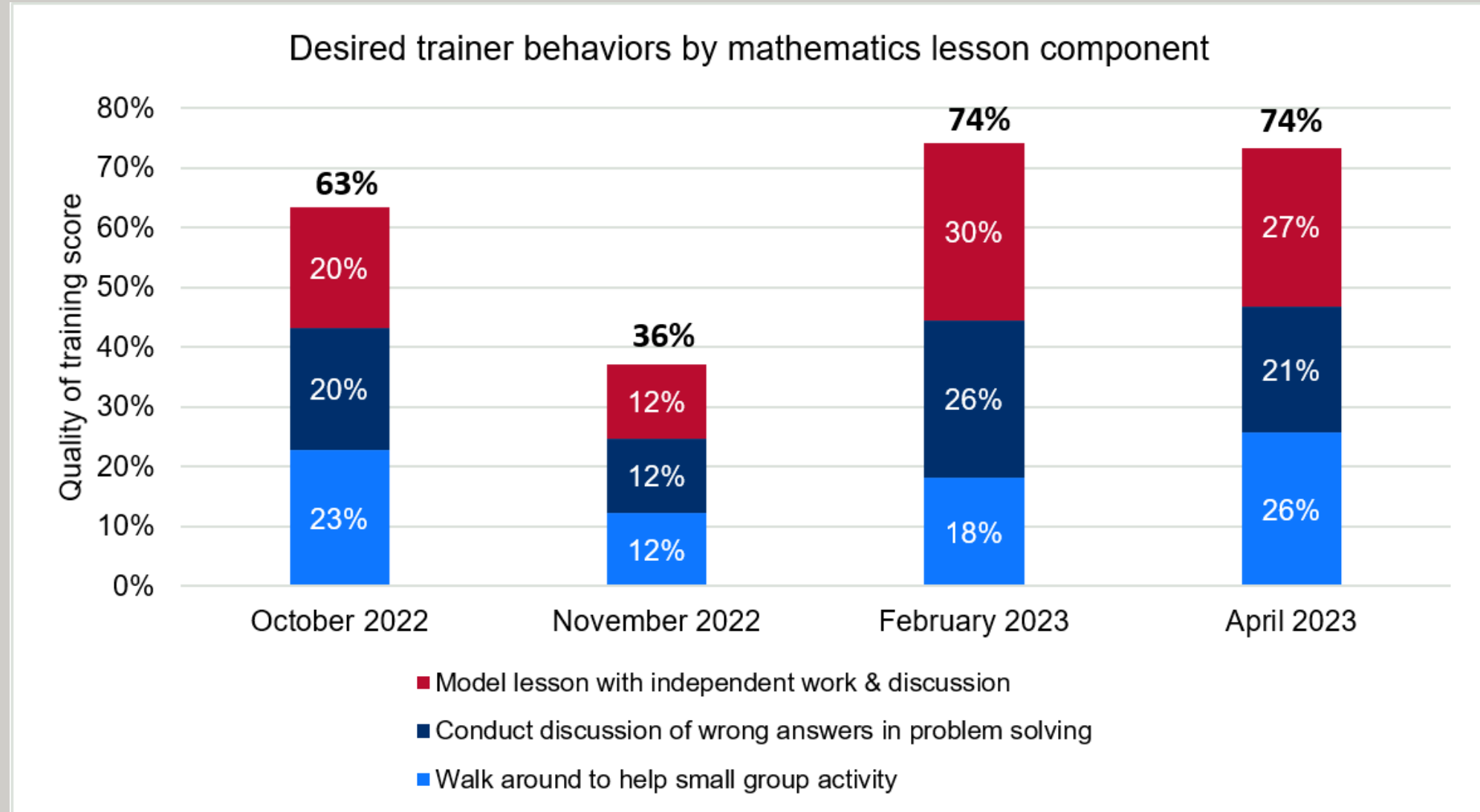
Application: Teacher Observable Behaviors

Not Yet Started

Novice

Emerging
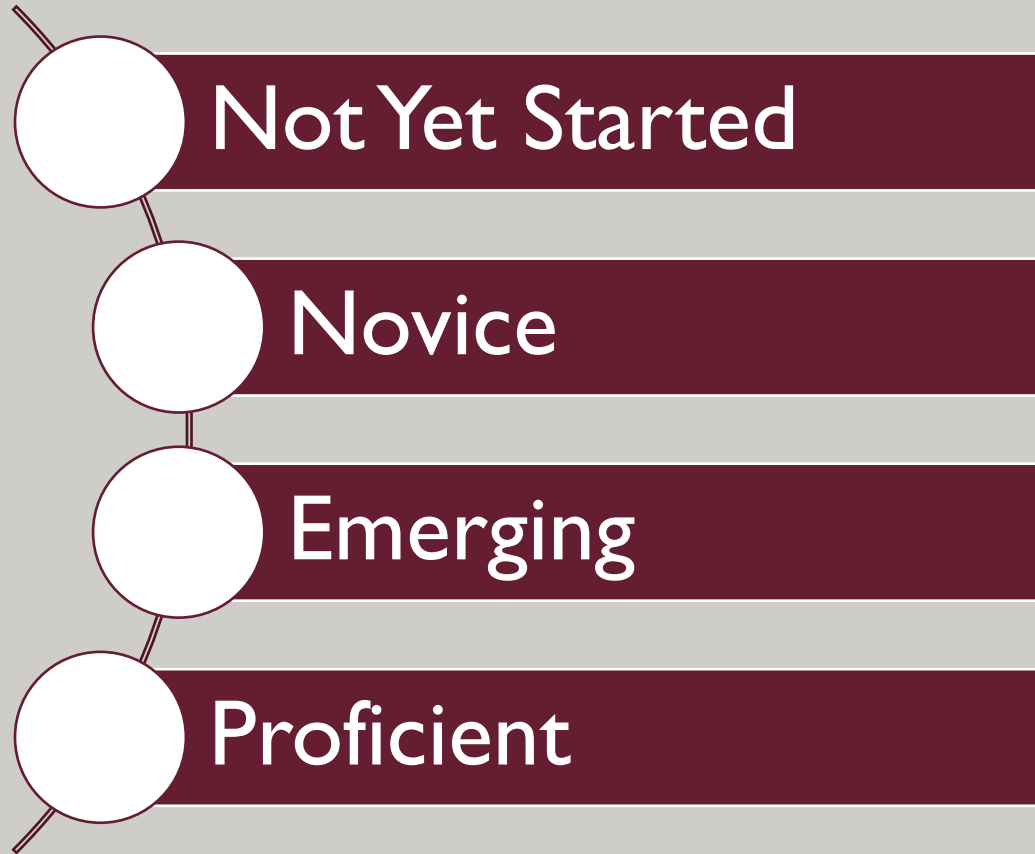
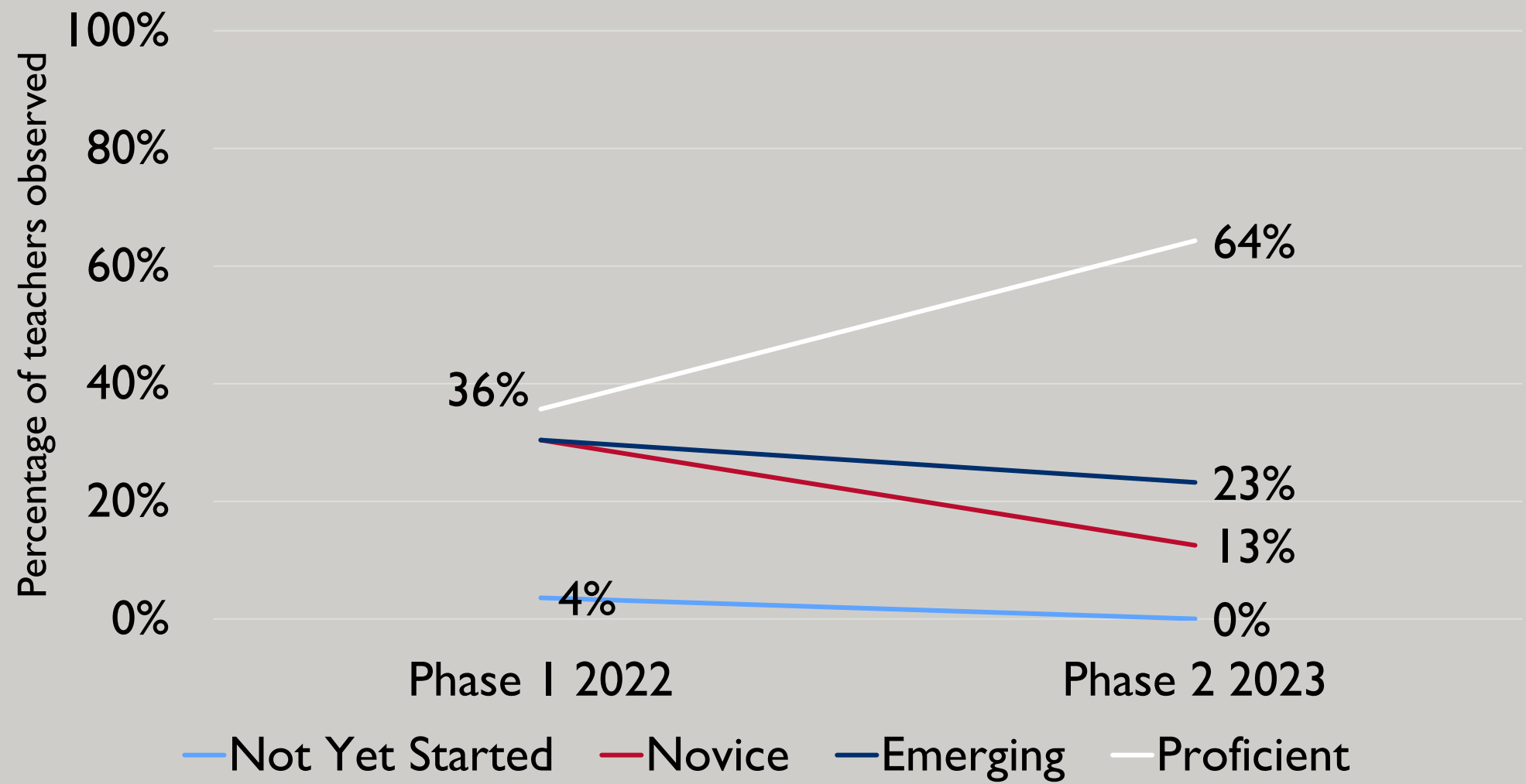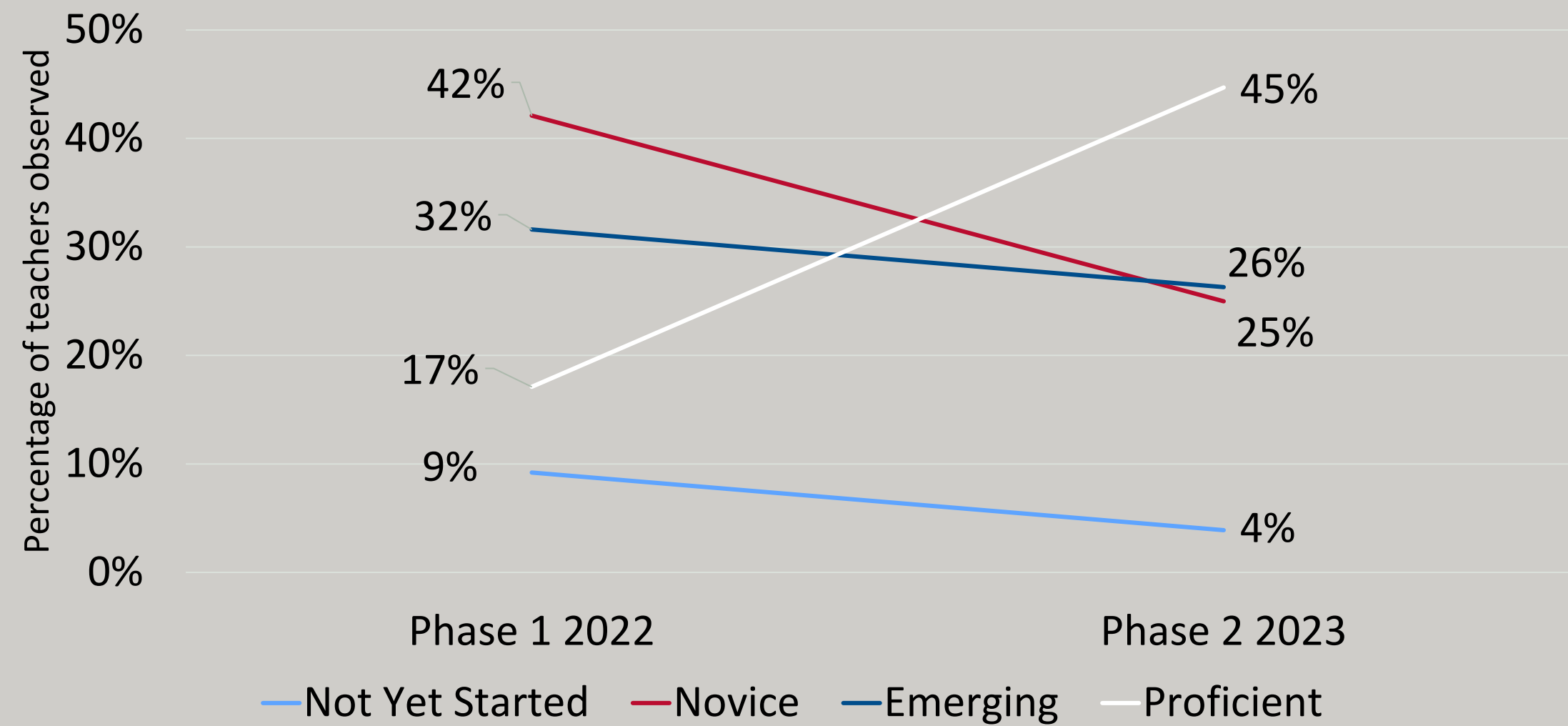Proficient

- Teacher observations at 2 timepoints (November 2022 & May 2023)
- Observed Grade 2 and Grade 4 teachers
- Created scales to understand uptake of materials and methodological approaches
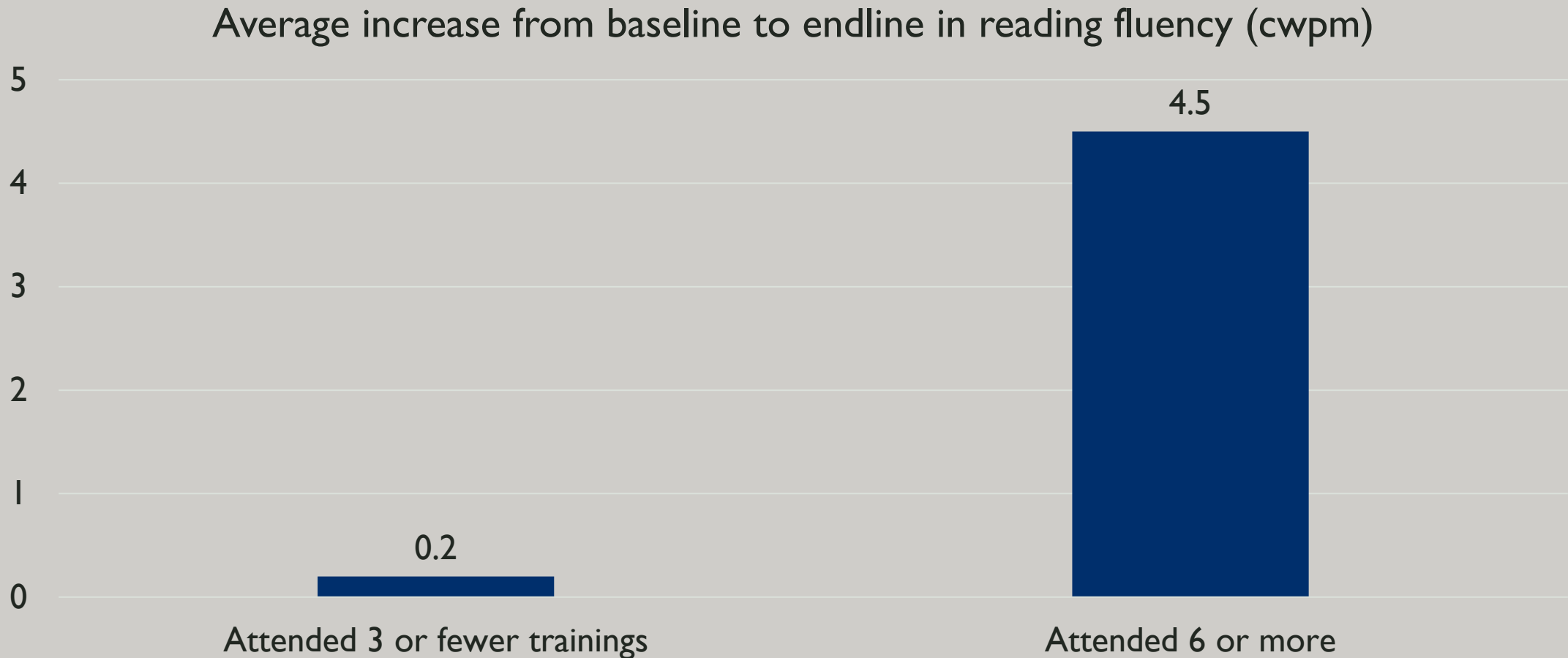
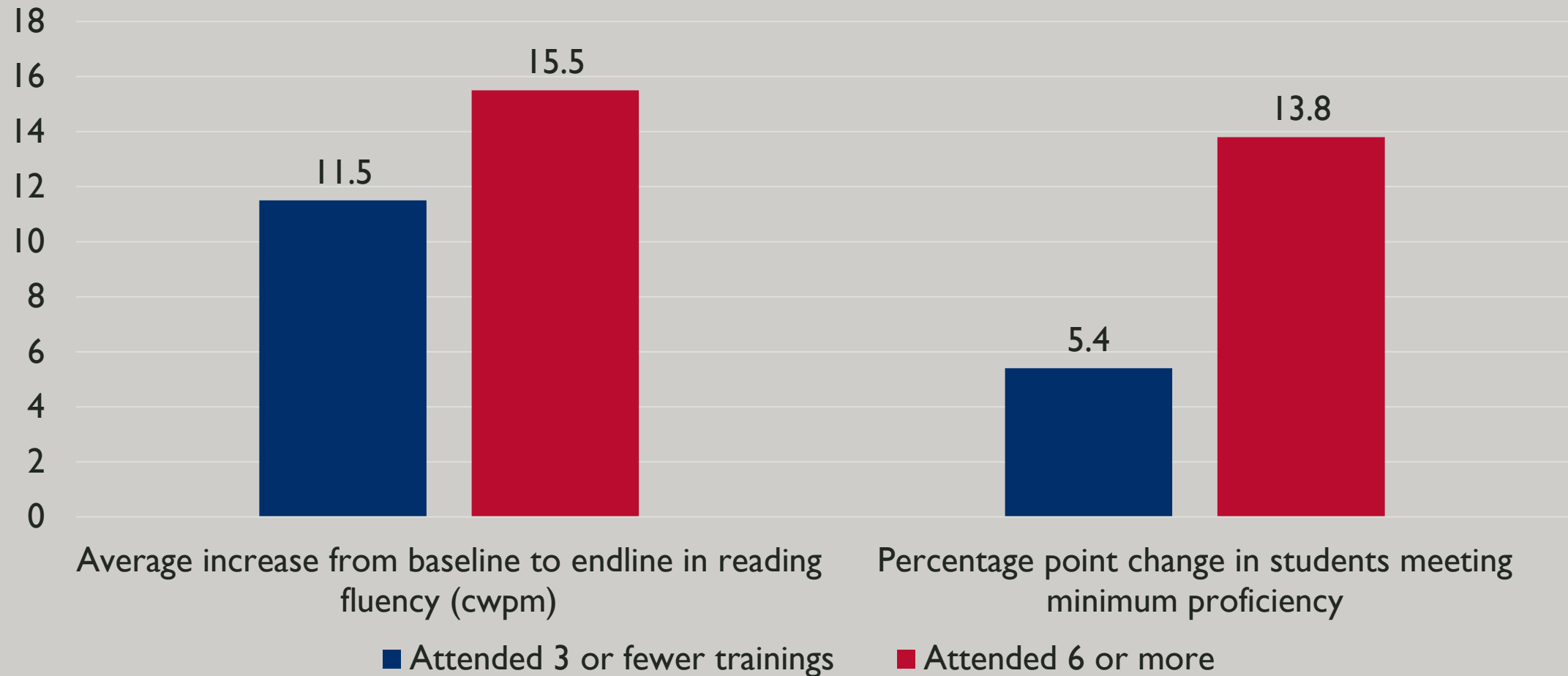Application: Proficiency in Reading and Listening Comprehension Teaching Practices

Application: Proficiency in Desired Mathematics Teaching Practices

Differences in ULA Learning Outcomes Based on Teacher Participation in Training: Grade 2

Average increase from baseline to endline in reading fluency (cwpm)

0.2 — Attended 3 or fewer trainings

4.5 — Attended 6 or more

Differences in ULA Learning Outcomes Based on Teacher Participation in Training: Grade 4

	Average increase from baseline to endline in reading fluency (cwpm)	Percentage point change in students meeting minimum proficiency
Attended 3 or fewer trainings	11.5	5.4
Attended 6 or more	15.5	13.8

Desired teaching behaviors and student outcomes

Relative improvement	Desired teaching practice
+ 10% points	Math: Explaining how to solve other related problems
+ 15 cwpm	ULA: Summarizing student answers
+ 11 cwpm	ULA: Asking meaning of new vocabulary
+ 9 cwpm	ULA: Discussion in pairs and groups

Teaching practices in top performing schools

- Teachers in top performing (*over 75% of student meet benchmark*) schools:

  - More frequently asked students to work in small groups or pairs.

  - More frequently engaged students who are not participating.

  - More frequently provided extra task to students who had completed the assignment earlier during independent work.

How did we achieve these results?

Short, digestible trainings on a regular basis

A monitoring feedback loop to target training based on evidence

Teacher reflections incorporated into training

Thank you!

How do we think we achieved these results even with a cascade model?

- The effective features of the TPD approach were the modelling, demonstrations, and practice of student-center methodologies embedded in the new TGs; complemented by classroom observations and discussions with trainers.

- Critical to the approach's effectiveness was ensuring teachers could participate in consistently high-quality training experiences, at scale, even when using a cascade training approach. The Program achieved this by incorporating three critical strategies

Short, digestible trainings on a regular basis

A monitoring feedback loop to target training based on evidence

Teacher reflections incorporated into training