

# **Improving Teacher Uptake of Pedagogical Best Practices for Foundational Literacy and Numeracy**

Key behavioral barriers and tips to address them

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We also teach others, ultimately striving for a future where the universal application of behavioral science powers a world with optimal health, equitable wealth, and environments and systems that are sustainable and just for all.

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# INTRODUCTION

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Over the past three decades, there has been substantial progress toward universal enrollment in primary education in low- and middle-income countries (LMICs). In 2022, [enrollment rates in primary education](#) in sub-Saharan Africa (SSA) were 99%, and in India they were 100%. These increases in school enrollment, however, are not translating into commensurate gains in learning outcomes. [Nine out of ten children in SSA](#) cannot read with comprehension by the age of 10. [In India, over 75% of Grade 3 learners](#) have not gained foundational literacy and numeracy (FLN) skills. Clearly, LMICs are facing a foundational learning crisis.

The evidence base for new educational interventions and instructional practices that can improve FLN outcomes at scale is growing. The Global Education Evidence Advisory Panel, for example, [outlines “Great Buys” and “Good Buys,”](#) which are educational interventions that have been shown to be effective at improving learning and educational outcomes at scale in a variety of LMIC contexts.

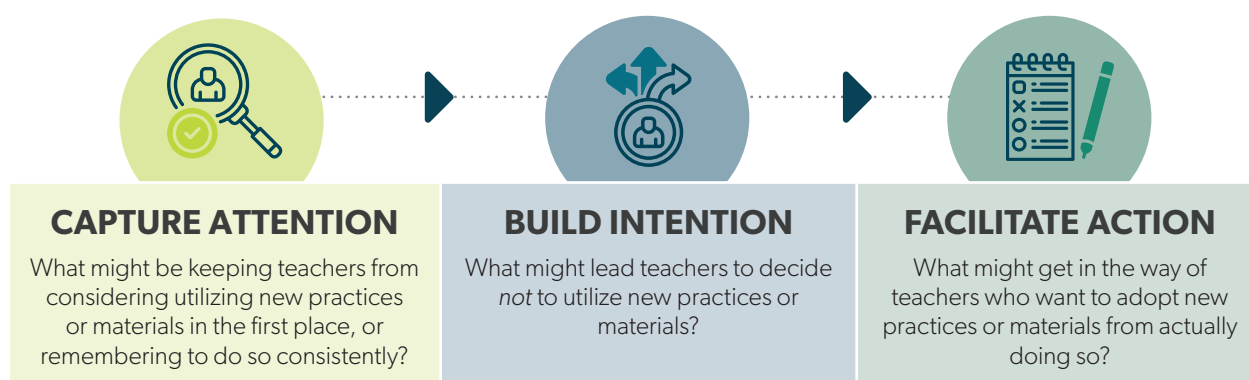
[Teaching at the Right Level \(TaRL\)](#) is one such “Great Buy,” an instructional approach in which children are grouped and taught based on their learning level rather than age. Additionally, [teaching children in their native language, rather than the colonial language, can lead to significant gains](#) in learning outcomes. A multitude of FLN initiatives in sub-Saharan Africa and India focus on providing teachers with training in various evidence-based pedagogical methods, as well as materials and additional support. Despite these efforts, take-up of these [practices](#) and [resources](#) among teachers can be low.

Programs that aim to improve FLN and education outcomes more generally [do not frequently consider how teachers make decisions and take actions](#). Adopting new pedagogical practices, however, often requires teachers to engage in many behaviors that differ from what they have grown accustomed to—such as managing multiple smaller groups of learners rather than a large class and teaching to achieve comprehension rather than rote memorization. Various features of teachers’ contexts, however, can serve as barriers that stand in the way of teachers’ ability and motivation to engage in these behaviors. For example, teachers may lack the time required to change their methods, fail to witness other teachers in their school taking up new practices, or have difficulty using dense teacher guides.

The field of behavioral science offers the opportunity to help more teachers adopt innovative pedagogical practices by understanding the behavioral barriers preventing teachers from utilizing new methods and materials, designing FLN programs in ways that address these barriers, and testing the impact of the designs on teacher behavior. With generous funding from the Bill and Melinda Gates Foundation (BMGF), a cohort of organizations used a behavioral science approach to improve the uptake of pedagogical best practices in five FLN programs in sub-Saharan Africa and India. This report is based on qualitative and quantitative research conducted with teachers participating in these programs, which led to the identification of **eight key behavioral barriers** that prevent teachers from taking up pedagogical best practices.

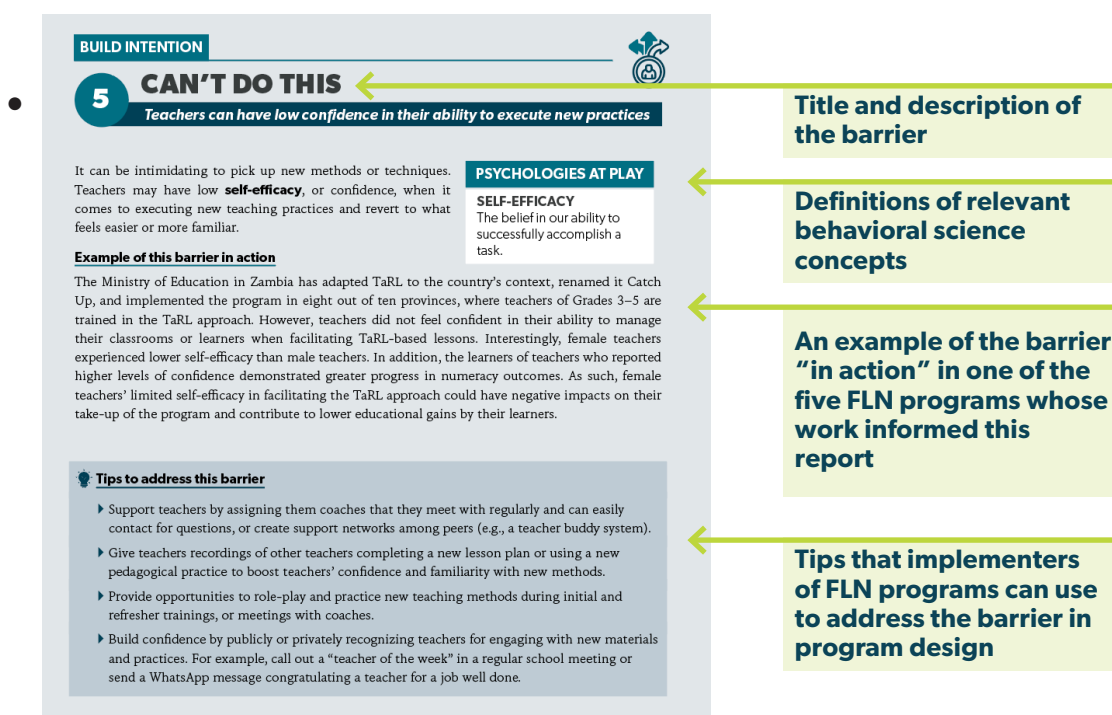
## What's in this report?

This report describes **eight behavioral barriers** that can impede teachers from adopting new evidence-based practices. The barriers are organized by three stages of people's (in this case, teachers') decision-making process: **capture attention**, **build intention**, and **facilitate action**. A breakdown at any one of these stages can prevent teachers from achieving the desired behaviors of an FLN program. As such, under each barrier we offer suggestions to implementers of how they can mitigate the barrier in FLN program design. These suggestions, or "tips", are grounded in behavioral science literature and include examples of solutions being tested by the FLN programs in the cohort (although implementers should always consider how various solutions might or might not work in their specific contexts). At the end of the report, we've included a **checklist** that summarizes the eight behavioral barriers and the tips to address them.



## How the report is organized

Each behavioral barrier is presented using the following template:



## CAPTURE ATTENTION

*What might be keeping teachers from considering utilizing new practices or materials in the first place, or remembering to do so consistently?*



### 1 TOO MUCH TO DO

Teachers' **time is scarce**; they have many things to do and a limited amount of time to get everything done. This can lead them to **tunnel**, or concentrate only on certain responsibilities at the expense of others. They can also be **present biased**, focused on accomplishing tasks that feel the most urgent or important in the short-term. As such, new teaching practices or materials that don't feel connected to or aligned with teachers' routines or existing responsibilities may be ignored.

#### Example of this barrier in action

In the Eastern Cape of South Africa, public school teachers of early primary grades were trained on and given high-quality teacher and learner support materials in children's local languages to improve literacy and numeracy outcomes. Teachers often didn't even think about using these materials, however, because they were focused on getting through the national curriculum, which felt more pressing.

#### PSYCHOLOGIES AT PLAY

##### **(TIME) SCARCITY**

Having a shortage of resources, like time, narrows people's focus and cognitive bandwidth.

##### **TUNNELING**

Focusing only on the most pressing or urgent needs and ignoring all other concerns or tasks.

##### **PRESENT BIAS**

Overweighting immediate benefits or costs at the expense of longer term goals or consequences.



#### Tips to address this barrier

- ▶ Integrate new pedagogical practices or materials into other resources that teachers use on a consistent basis, such as existing lesson plans or teacher guides.
- ▶ Create opportunities for teachers to use new methods or materials during their routines—for example, if teachers have regular meetings with a supervisor or coach, use this time to reinforce or practice new techniques.
- ▶ Consider where you can consolidate or cut what teachers are being asked to do. For instance, try to combine trainings or replace one activity or material with another.

## CAPTURE ATTENTION

*What might be keeping teachers from considering utilizing new practices or materials in the first place, or remembering to do so consistently?*



## 2 NOT TOP OF MIND

People have **limited attention**. Teachers, like all of us, can only take in so much at once and may experience **information overload**. Therefore, pedagogical best practices need to be **salient**, or top of mind, for teachers.

### Example of this barrier in action

Public primary school teachers in Senegal who were trained to run an after-school remediation program for second and third graders were responsible for providing support to and rotating among learners grouped according to their level of reading or math. However, teachers had difficulty rotating among the groups because they did not have any prompts or reminders of when to rotate either in their classroom (such as clocks or posters) or in the lesson plans they followed.



### Tips to address this barrier

- ▶ Provide information during moments when you have teachers' attention, such as during existing trainings, coaching sessions, or school-wide meetings.
- ▶ Create reminders to use new practices or materials using channels that teachers pay attention to or use frequently, such as existing lesson plans, messages in a WhatsApp group, or posters in the classroom.
- ▶ Break up new teaching practices into smaller, actionable steps and communicate them one at a time. For example, focus on one topic per training or send a WhatsApp message that provides a quick, easy-to-digest summary of the upcoming day's lesson.

## PSYCHOLOGIES AT PLAY

### LIMITED ATTENTION

People have a finite amount of attention at their disposal at any given time.

### INFORMATION OVERLOAD

The state of being overwhelmed by the amount of information presented for one's attention or processing.

### SALIENCE

The prominence of something compared to other elements in the surrounding environment, which determines what information to focus on and what to ignore.

## BUILD INTENTION

*What might lead teachers to decide not to utilize new practices or materials?*



### 3 CHANGE IS HARD

It is easiest to stick with what we have always known. Teachers who have been teaching for a long time may be prone to **status quo bias** and more resistant to adopting new teaching practices given that their existing **habits** may feel particularly effortful to change. Additionally, experienced teachers may feel like their current methods of teaching are better, or the “right” way of doing things.

#### Example of this barrier in action

Throughout the state of Uttar Pradesh in India, teachers of Grades 1–3 were provided with high-quality teaching and learning materials, as well as teacher trainings and mentoring by coaches, to improve literacy and numeracy outcomes. Despite having these resources available, teachers seemed to pick and choose specific elements of the program to take up. Teachers more easily adopted components of the program that aligned with their existing beliefs and habits, such as maintaining records for review by supervisors. However, practices that required more deviation from their “tried-and-true” methods were passed over, especially by experienced teachers, such as carving out time to prepare for class.

#### PSYCHOLOGIES AT PLAY

##### **STATUS QUO BIAS**

The preference for the current state of affairs.

##### **HABITS**

Recurring behaviors that become automatic with time.

#### Tips to address this barrier

- ▶ Spotlight positive trends in adoption of pedagogical best practices by other teachers or nearby schools. For example, share testimonials from “champion teachers” who have taken up new methods and seen benefits from doing so.
- ▶ Use visuals (e.g., a checklist with initial steps already checked off) to highlight commonalities between old and new practices/materials, in order to show teachers that they are already making progress toward what is being asked of them.
- ▶ Take advantage of times when people are more open to change, known as “fresh start moments.” For instance, align trainings on new practices with the beginning of the school year, or have authority figures like head teachers, principals, and government officials encourage adoption at school- or district-wide meetings that kick off each school period.

## BUILD INTENTION

*What might lead teachers to decide not to utilize new practices or materials?*



### 4 MISPERCEPTIONS OF VALUE

Because teachers frequently experience **time scarcity** and adopting new teaching practices requires effort, teachers need to feel like uptake is worth it. Using new teaching methods can feel risky to teachers because of our **aversion to ambiguity**. As such, if the benefits of adopting new pedagogical practices are not made clear and concrete to teachers, they may not use them. Additionally, teachers may misperceive or be unaware of **social norms** among their peers and believe that adoption of these practices is not common or valued at their school. Or teachers may believe that parents prefer their current ways of teaching.

#### Example of this barrier in action

In Botswana, Teaching at the Right Level (TaRL) is being scaled to all primary schools using a “follow the leader” approach in which regional stakeholders decide who should implement TaRL in classrooms. Rather than mandating that all teachers must implement TaRL right away, some regions have first looked to youth corps volunteers placed in schools to be trained in TaRL and model this approach. This has allowed teachers to see firsthand how TaRL can improve learners’ outcomes and impact their schools. As such, even though teachers are extremely busy, demand for training in TaRL is now snowballing as teachers have come to understand how TaRL can concretely benefit their teaching and to view this approach as one that is being more widely adopted.

#### PSYCHOLOGIES AT PLAY

##### **(TIME) SCARCITY**

Having a shortage of resources, like time, narrows people’s focus and cognitive bandwidth.

##### **AMBIGUITY AVERSION**

The preference for options that provide certain or known outcomes over uncertain outcomes.

##### **SOCIAL NORMS**

The tendency to shape our behavior based on what we believe is typical in our community.



#### Tips to address this barrier

- ▶ Demonstrate the clear, concrete value of new practices to teachers, e.g., featuring graphs or figures that link adoption to gains in learner outcomes.
- ▶ Make the positive “invisible” behavior of teachers—i.e., what they do alone in their classrooms—more “visible.” For example, prompt teachers to share challenges and lessons learned from applying new pedagogical methods during school-wide meetings.
- ▶ Have authority figures prioritize uptake and create accountability by building in checks on whether teachers are using new practices or materials into meetings with supervisors, head teachers, or district officials.

## BUILD INTENTION

*What might lead teachers to decide not to utilize new practices or materials?*



### 5 CAN'T DO THIS

It can be intimidating to pick up new methods or techniques. Teachers may have low **self-efficacy**, or confidence, when it comes to executing new teaching practices and revert to what feels easier or more familiar.

#### Example of this barrier in action

The Ministry of Education in Zambia has adapted TaRL to the country's context, renamed it Catch Up, and implemented the program in eight out of ten provinces, where teachers of Grades 3–5 are trained in the TaRL approach. However, teachers did not feel confident in their ability to manage their classrooms or learners when facilitating TaRL-based lessons. Interestingly, female teachers experienced lower self-efficacy than male teachers. In addition, the learners of teachers who reported higher levels of confidence demonstrated greater progress in numeracy outcomes. As such, female teachers' limited self-efficacy in facilitating the TaRL approach could have negative impacts on their take-up of the program and contribute to lower educational gains by their learners.

#### PSYCHOLOGIES AT PLAY

##### **SELF-EFFICACY**

The belief in our ability to successfully accomplish a task.



#### Tips to address this barrier

- ▶ Support teachers by assigning them coaches that they meet with regularly and can easily contact for questions, or create support networks among peers (e.g., a teacher buddy system).
- ▶ Give teachers recordings of other teachers completing a new lesson plan or using a new pedagogical practice to boost teachers' confidence and familiarity with new methods.
- ▶ Provide opportunities to role-play and practice new teaching methods during initial and refresher trainings, or meetings with coaches.
- ▶ Build confidence by publicly or privately recognizing teachers for engaging with new materials and practices. For example, call out a "teacher of the week" in a regular school meeting or send a WhatsApp message congratulating a teacher for a job well done.

## BUILD INTENTION

*What might lead teachers to decide not to utilize new practices or materials?*



## 6 IT'S OUTSIDE OF MY CONTROL

Teachers may not take responsibility for negative outcomes, like slow learner progress. Rather, they may have an external **locus of control**, believing that these outcomes are the result of factors outside of their control. As such, teachers may not adopt pedagogical best practices if they feel like these won't impact learner outcomes or like they are powerless to enact change.

### Example of this barrier in action

Teachers in Uttar Pradesh, India, equipped with training and resources on pedagogical best practices believed that low learning outcomes were the result of factors like poor learner attendance and lack of parental engagement in their children's education. Because they viewed changing their learners' educational outcomes as outside of their control, they were not motivated to take up the new teaching practices and materials.

### PSYCHOLOGIES AT PLAY

#### **LOCUS OF CONTROL**

The degree to which we believe that events are determined by our own, internal influences or by uncontrollable, external influences.



### Tips to address this barrier

- ▶ Involve teachers in FLN program design to give them a greater sense of agency. Whenever possible, co-design new materials with teachers or ask teachers to provide feedback on proposed solutions.
- ▶ Connect teachers' adoption of new practices and materials with positive results. For example, create quarterly reports for teachers that concretely tie their behavior to their learners' outcomes.
- ▶ Use teachers' check-ins with a supervisor or coach to create a feedback loop—showing that as they take up new practices or materials, their class' learning outcomes improve.

## FACILITATE ACTION

*What might get in the way of teachers who want to adopt new practices or materials from actually doing so?*



### 7 TOO COMPLICATED

Even if teachers have the intention to take up new teaching practices or materials, they might not be adopted if they are too complicated or difficult to use. Given that teachers have **limited attention** and time, resources like teaching guides need to be straightforward and easy to use. Even though new teaching methods may take time to practice and master, providing clear instructions, creating **heuristics**, or breaking down processes into smaller steps can go a long way in helping teachers overcome an **intention–action gap**.

#### Example of this barrier in action

In the Eastern Cape, South Africa, teachers of early primary grades struggled to use the teacher guide they were given to improve their learners' FLN outcomes because it contained a large amount of information and lengthy text. Further, the guide contained instructions for many different activities to facilitate in their classrooms. Teachers felt like the guide was unrealistic to implement as they had too much to cover and too little time.

#### PSYCHOLOGIES AT PLAY

##### LIMITED ATTENTION

The fact that, at any given time, we have a finite amount of attention at our disposal.

##### HEURISTICS

Simple rules-of-thumb that can facilitate problem-solving and reduce the cognitive energy required to make decisions.

##### INTENTION–ACTION GAP

Occurring when we have the intention to do something, but fail to follow through on this intention.



#### Tips to address this barrier

- ▶ Simplify materials provided to teachers by reducing text, using visuals, and highlighting the most important information using bolded words or different colors.
- ▶ Create checklists for teachers that summarize new practices into clear steps they can easily follow. For example, add a one-pager to the beginning of a teacher guide that highlights the main actions they need to take at the start of, during, and after each class.
- ▶ Prompt teachers to follow through on their intentions to take up new practices or materials by having them complete a commitment exercise during training (e.g., writing what actions they will take to achieve their objectives and signing the document). Reinforce this commitment by making it public (e.g., a document that all teachers sign together) or by reminding teachers of their pledge throughout the school year.

## FACILITATE ACTION

*What might get in the way of teachers who want to adopt new practices or materials from actually doing so?*



### 8 THINGS KEEP GETTING IN THE WAY

Teachers may face **hassles**, or obstacles that may seem small but ultimately impede their uptake of new teaching practices or materials. For example, teachers may not show up for trainings if they are scheduled at an inconvenient time or place. Further, if teachers need access to a seemingly simple resource that they don't have in order to use a teaching method, like a clock in the classroom to keep time, this can be enough to prevent follow through.

#### PSYCHOLOGIES AT PLAY

##### HASSLES

Seemingly trivial inconveniences that can have an outsized impact on behavior.

#### Example of this barrier in action

Senegalese teachers that taught in an after-school remediation program for Grades 2–3 found that the organization of their classrooms was not conducive to adequately supporting and helping multiple groups of learners stay on task. For example, because the groups were seated too close together, learners were often distracted by what other groups were learning. In addition, the lesson plans that teachers were given did not present enough opportunities for teachers to rotate among the groups, which prevented them from providing sufficient support to all learners in the classroom.



#### Tips to address this barrier

- ▶ Put yourself in the shoes of a teacher and walk through each step a teacher needs to take in order to use a new practice or material. Note anything challenging or confusing, and then address these sticking points by simplifying or removing steps.
- ▶ Pilot a FLN program, or components of a program, with teachers. Observe how the program functions in practice and gather feedback from teachers about what works well vs. less well. Iterate before scaling.
- ▶ Provide resources to address hassles or guidance for how to resolve them. For example, if classroom setup could prevent teachers from engaging in new practices, provide them with a visual of how to best arrange the classroom.

# CONCLUSION

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**T**eachers and learners in LMICs have much to gain by implementing new instructional practices that can significantly improve FLN outcomes. But simply training teachers on these practices and providing support materials like teacher guides is not enough to ensure adoption and to drive change. In order for these new pedagogical methods to be taken up, FLN programs need to address key behavioral barriers that teachers face in focusing their attention on new practices and materials provided to them, as well as in forming intentions to use them and following through on these intentions.

In addition to take-up of pedagogical best practices and materials, teachers need to engage in a range of other behaviors that are important for improving learners' FLN outcomes. For example, teachers may not attend or complete professional development sessions or courses designed to train them in new evidence-based methods. Or teachers may not use formative assessment tools provided to them to initially group and subsequently advance learners based on their level of reading or math. Sustained adoption of new teaching techniques and resources can also be a challenge. Additional research should identify the barriers that prevent teachers from engaging in these behaviors and evaluate how these barriers can be addressed in program design.

Other educational actors (such as coaches, school principals, and government officials) also play an important role in supporting teachers to adopt effective instructional practices and in leading to improved FLN outcomes. For instance, coaches need to serve as trusted mentors to teachers, rather than monitors, and provide them with actionable feedback that they can integrate into their teaching. Government officials need to use data to make informed decisions about FLN programming and how to best allocate limited resources. Program implementers should consider what behavioral barriers may prevent these actors from exercising behaviors that drive gains in learner outcomes and integrate solutions to address these barriers when designing programs.

We welcome your thoughts on these areas for further research as well as the insights shared in this report—reach out to us at [globaldev@ideas42.org](mailto:globaldev@ideas42.org)!

# Behavioral Design Checklist

This resource aims to help implementers of FLN programs design their programs to mitigate common behavioral barriers that teachers face in taking up pedagogical best practices and materials.



## CAPTURE ATTENTION: What might be keeping teachers from considering utilizing new practices or materials in the first place, or remembering to do so consistently?

### Too much to do

Teachers have many things to do and limited time

- ☐ Integrate new pedagogical practices or materials into other resources that teachers use consistently
- ☐ Create opportunities for teachers to utilize new methods or materials during their routines
- ☐ Consolidate or cut what teachers are asked to do

### Not top of mind

Teachers can only pay attention to a limited amount of information

- ☐ Provide information during moments when you have teachers' attention
- ☐ Create reminders to utilize new practices or materials via channels that teachers pay attention to or use often
- ☐ Break up new teaching practices into smaller, actionable steps and communicate them one at a time



## BUILD INTENTION: What might lead teachers to decide *not* to utilize new practices or materials?

### Change is hard

Shifting away from prior teaching methods can be difficult

- ☐ Spotlight positive trends in adoption of pedagogical best practices by other teachers or schools
- ☐ Show teachers they have already made progress toward what is being asked of them by highlighting commonalities between old and new practices/materials
- ☐ Take advantage of "fresh start moments"—times when people are more open to change

### Misperceptions of value

Teachers may not think the adoption of new practices is worth it

- ☐ Demonstrate the concrete benefits of new practices
- ☐ Make the positive "invisible" behavior of teachers' peers more "visible"
- ☐ Emphasize the importance of uptake by having authority figures check whether teachers are using new practices

### Can't do this

Teachers can have low confidence in their ability to execute new practices

- ☐ Support teachers by assigning them coaches or creating support networks among peers
- ☐ Give teachers recordings of other teachers using new practices
- ☐ Provide opportunities to role-play and practice new techniques during trainings or coaching sessions
- ☐ Recognize teachers for engaging with new practices/materials

### It's outside of my control

Teachers can believe that improving learner outcomes is not in their power

- ☐ Involve teachers in FLN program design
- ☐ Connect teachers' adoption of new practices or materials with positive results using quarterly reports
- ☐ Create a feedback loop to show that as teachers take up new practices or materials, their learners improve



## FACILITATE ACTION: What might get in the way of teachers who want to adopt new practices or materials from actually doing so?

### Too complicated

New teaching practices can be too difficult to use

- ☐ Simplify materials by reducing text, using visuals, and bolding the most important information
- ☐ Create checklists that summarize new practices into clear, easy-to-follow steps
- ☐ Integrate a commitment exercise into training to prompt teachers to follow through on their intentions

### Things keep getting in the way

Small obstacles can impede adoption of new practices

- ☐ Walk through each step a teacher needs to take to utilize a new practice/material and address any sticking points
- ☐ Pilot FLN programs before iterating and scaling
- ☐ Provide resources to overcome obstacles or guidance for how to resolve them

