



Implementation Research in Education: what is it and where to start

laterite

DATA | RESEARCH | ANALYTICS

Context

Over the past few years, Laterite has had the opportunity to work with several organizations on a number of implementation research projects, including in the education sector.

A recent example was our collaboration with Brink on uBoraBora - a fund set up to strengthen the use of implementation research in improving foundational liter-

racy and numeracy at scale and gain insights into how evidence generated informs and enables pathways to scale.

Implementation research applied to education can be a game changer. To support the growing interest, this note serves as a brief introduction to the topic with suggestions for how to get started.

We hope this is useful.

What is implementation research?



Beyond what works. Implementation research seeks to understand where, why, for whom and how interventions work in “real world” settings, with a view to successfully scaling solutions and interventions. To do this, implementation research takes into consideration the context, stakeholders and the implementation process (Peters et al., 2014).



Grounded in implementation science. In the education sector, implementation research can be seen as a subset of implementation science, drawing on the work pioneered in public health to focus specifically on questions of scale within education (Peters et al., 2014). Implementation science was born out of the recognition that the uptake of medical and clinical innovations depends on contextual factors, not just the effectiveness of the innovation (Bauer and Kirchner, 2020).



A focus on implementation challenges and solutions. Implementation research focuses on improving program delivery by using evidence and contextual understanding to drive practical adaptations. Unlike efficacy research, which focuses on evaluating whether the overall program works, implementation research can answer specific implementation questions such as: Is it better to have teacher training on Monday morning or Friday afternoon? Small tweaks in the delivery of a program can make a big difference and implementation research is a means to inform these adaptations.

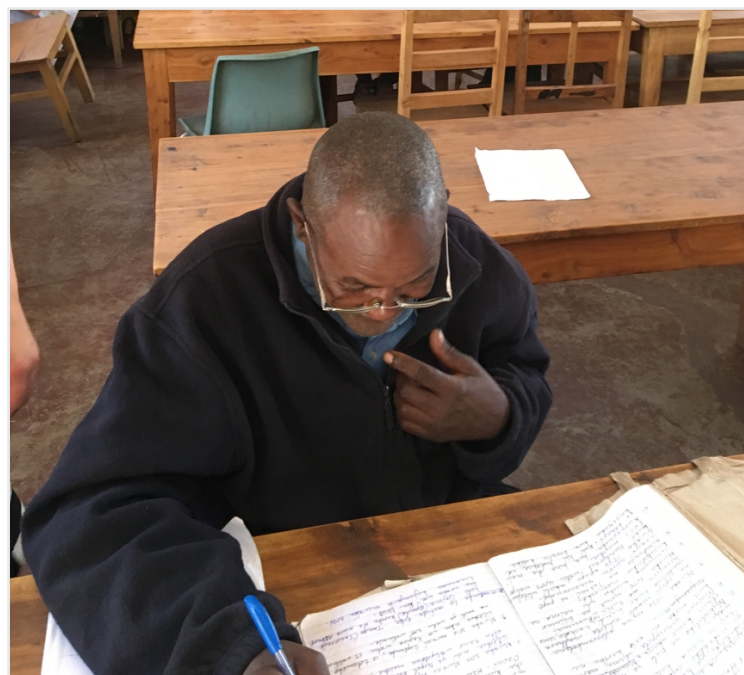
Features of implementation research

What makes implementation research different?

It's all about context. Social, cultural, economic, political, legal, physical and institutional environments have an effect on the success of program implementation (Peters et al., 2014). Understanding these factors, and whether they enable or hinder the success of a program, is a key goal of implementation research.

Participatory in nature. Implementation research aims to deliver insights that will be useful for those engaging with them such as implementers, decision makers and practitioners. It focuses on grounded practical questions related to implementation, which should lead to findings that address the needs of implementers and stakeholders. It does this by involving these stakeholders throughout the entire research process, from co-creating the design and the development of research questions, to keeping stakeholders informed of progress and results. Implementation research should create opportunities to pause and reflect with stakeholders, including educators, parents, or government ministers, involving them in critical discussions.

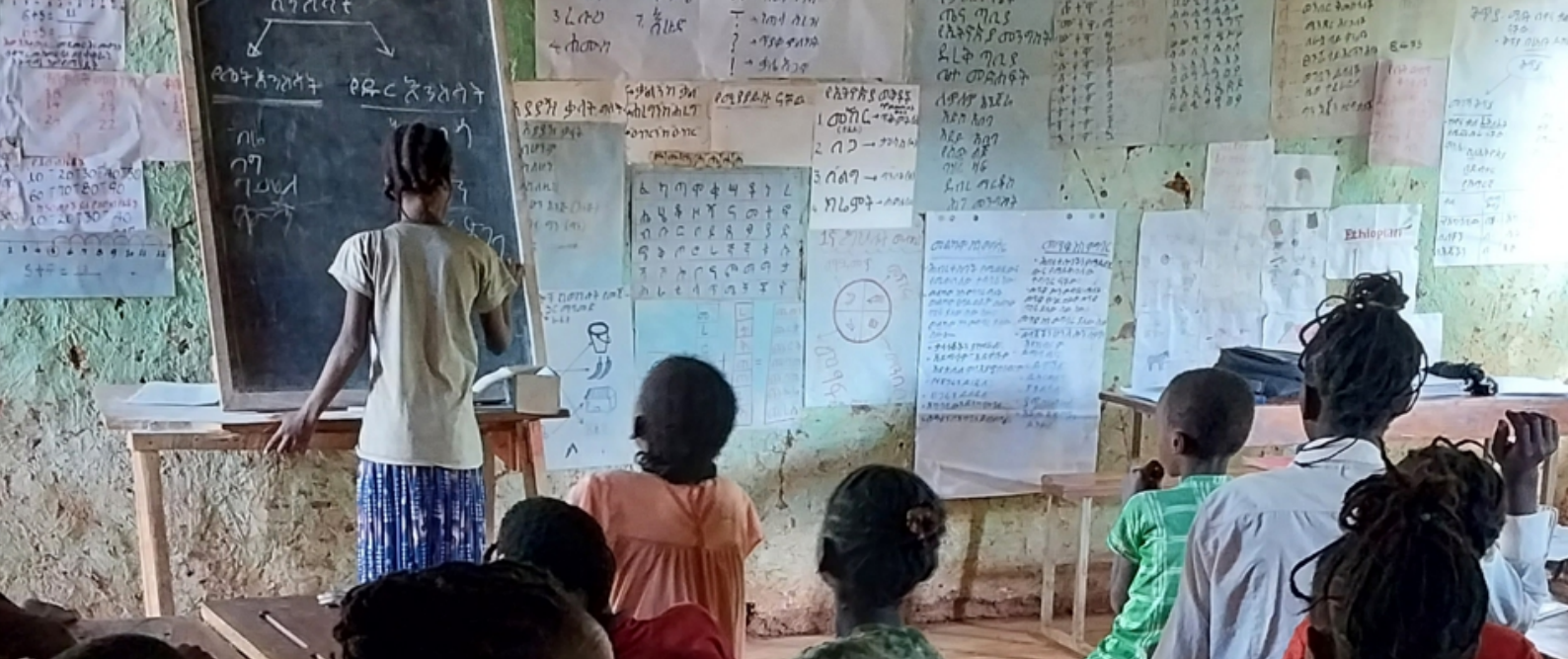
Enables continuous adaptation. To be effective, implementation research must be agile and flexible to inform adaptation and document feedback in real-time (Alison 2023). Implementation research creates space to question delivery mechanisms, experiment with different approaches, and continuously



improve implementation based on evidence. For this reason, implementers usually collect the data and conduct the research, while MEL teams or external researchers provide technical support (e.g. establishing easy-to-use systems for data collection, storage, and analysis.)

Real world settings. Unlike pure efficacy studies, which tend to take place in controlled settings and focus on causal relationships, implementation research takes place in real world settings.

Complements other types of research. Implementation research can take place on its own, or it can support existing or new research and monitoring activities relating to an education program. For example, implementation research might complement effectiveness research and regular monitoring to understand how an intervention works in a given context.

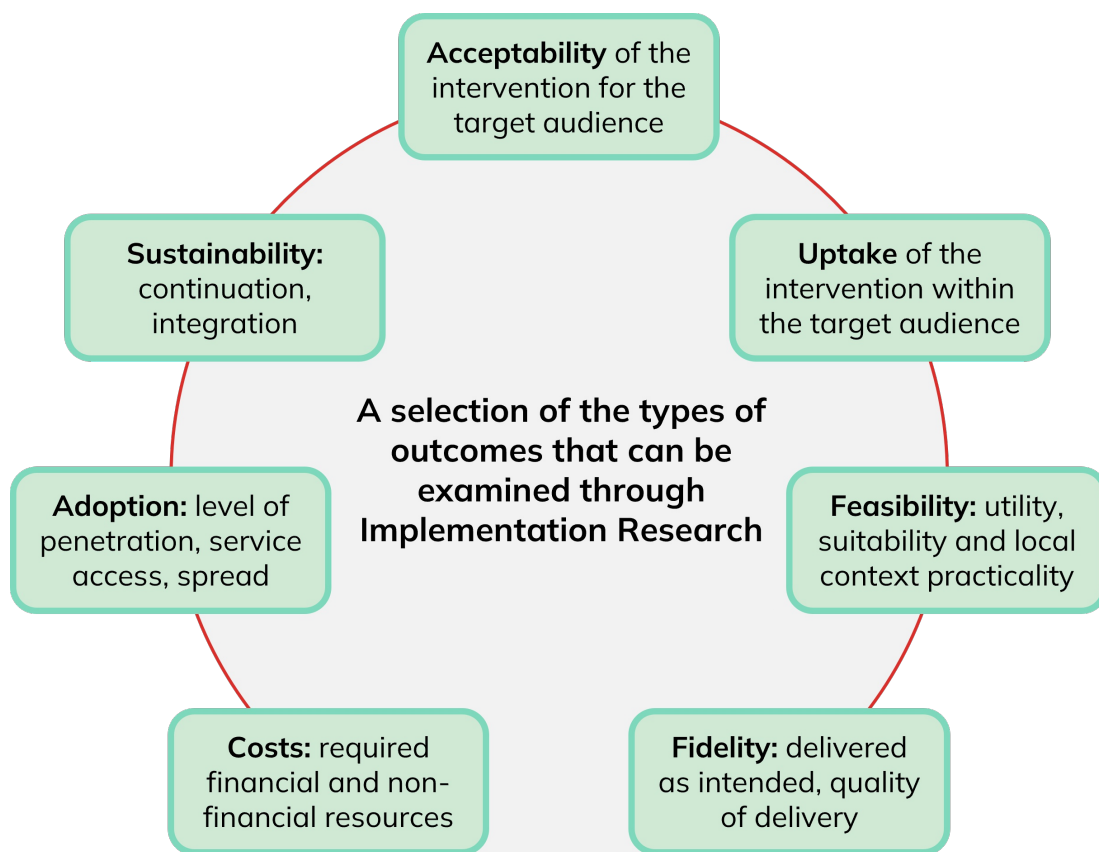


What can we learn?

Implementation research explores all questions relating to outcomes that help implementers to assess what works and what doesn't work in a program.

It's thus important to identify which outcomes should the research target before determining which methodologies to use.

The figure below (adapted from Proctor et al. 2011) illustrates some of the outcomes that can be studied with Implementation Research.



Research questions and methodologies

There is no single approach to implementation research. Instead, the field draws from a wide range of methods and disciplines in order to provide program implementers and policymakers with actionable, contextually relevant insights.

An understanding of the local context is key and any methodologies used for implementation research should take into account the nature of the education system in which an intervention takes place. Often, multiple methods and sources of information are needed to fully address an implementation research question. Moreover, since implementation research is embedded in the implementation process itself, the selected research methods need to be flexible enough to adapt to changes in the intervention.

A/B testing is a methodology that is increasingly being used in the education

field, allowing to compare different versions of an implementation model on the basis of their effectiveness. For example, group A can be randomly assigned to a peer-coaching model while group B receives the standard teacher coaching. A/B tests share many characteristics with RCTs, but they are more agile and provide quicker insights. This agile method often uses existing M&E data and allows for multiple cycles of testing & evidence-based adaptation. A/B testing is an opportunity to test promising implementation adjustments, enabling adoption of more cost-effective programme implementation models (Angrist et al., 2024).

Implementation research methodologies are very diverse and not limited to A/B testing. Here are a couple of examples of how different methodologies can be deployed to answer research questions in implementation research.

Research question examples

Adapted from Allison (2023) and the Foundation for Child Development (2020)

How can we strengthen the effectiveness of the program?

Implementation research can help identify which program components are most critical for promoting which outcomes and for whom. These insights can be used to think about how programs can be optimized to produce reliable, positive impacts.

Possible methodologies

- > Observations to record behaviors
- > Stakeholder surveys
- > Focus group discussions
- > Key informant interviews

How can the intervention strengthen equitable outcomes including participants in vulnerable circumstances?

Implementation research can help understand if and why an intervention is leading to different outcomes across diverse populations. This information can then be used to adapt the intervention and make it more equitable.

Possible methodologies

- > Stakeholder analysis / system mapping workshops
- > Causal loop diagramming
- > Key informant interviews with technical staff and leadership
- > Observations and focus groups to understand perceptions and capacity-related factors
- > Data mining to understand differences in outcomes by e.g. geography or demographic factors

How do we compare different implementation approaches?

Implementation research is a valuable tool for comparing different approaches to determine which yields the best results within a specific context. It also supports an iterative process, enabling the testing and continual refinement of strategies over several cycles based on insights gathered at each stage.

Possible methodologies

- > Multivariate testing
- > Sequential testing
- > A/B testing

How can we adapt to different contexts?

The processes and procedures that make a program successful in its initial context may not be the same for the program to be effective in another. Implementation research can be used to understand more about how to adapt promising programs to new contexts while maintaining quality and effectiveness.

Possible methodologies

- > Stakeholder analysis / systems mapping
- > Process evaluation

How can programs be made sustainable? How can the intervention achieve desired outcomes at scale through government systems?

There is little knowledge on what it takes to ensure that a program is maintained and continues to produce positive effects over time.

Possible methodologies

- > Stakeholder analysis / system mapping workshops
- > Review of policies
- > Key informant interviews with leadership and key stakeholders
- > Open observations & focus groups

How to make a start

Steps to take to design and carry out implementation research

1 Understand the implementation problem

The first step for implementation research is to have an excellent understanding of the program's implementation, within which your problem (or opportunity for learning) is embedded. This can be achieved through the elaboration of an implementation roadmap where all inputs (e.g. trainings, materials) are clearly laid out, specifying what happens at each stage and in what way. It is also important to understand the role that each input plays in the intervention's theory of change and any underlining assumptions.

Once the implementation process is mapped, identify the implementation challenge of interest and the outcomes affected by it. And while defining the questions you want to address, consider the areas of adaptation where implementation research could bring the most value.

2 The actors and their context

Consider the actors closest to the identified implementation challenge. For example, if the challenge is about uptake of an intervention, teachers or school leaders might be central. Key actors may include teachers, students, parents, policymakers, and school administrators: anyone potentially involved in a solution.



A deep contextual understanding of these actors' environments will enrich this analysis. For instance, teachers in specific schools could be working with limited resources. By considering these contextual factors early, your research will yield more pragmatic insights.

3 Data sources

Evaluate which data sources capture the information needed to solve the implementation challenge. Here are two examples:

> If the problem is related to uptake or acceptability, data sources should aim to capture stakeholder perspectives or focus on getting information on incen-

tives or preferences. Possible data sources for both cases could be in-depth interviews, focus groups or surveys.

> If the issue is related to cost or sustainability, then the data should cover institutional capacity. Good sources of data for this purpose could be, for example, budget data, administrative data, or key informant interviews.

4 Research design

Qualitative research? Quantitative? Or mixed methods? The appropriate choice of methodology will depend on what you are attempting to learn, and what types of data are available to present the best insights. Once the methodology is selected, the next step is to develop a research design considering questions such as:

- > When should the research take place?
- > How will we embed the research in the implementation process?
- > When will the implementation be adjusted based on the findings?

In addition, use the implementation roadmap at the start to guide how and when the research can be integrated into the process. Implementation research offers the most value where implementers can build multiple iterations of an adaption to test, learn, and refine over time. You can leverage this agility to maximize learning. Experiments within implementation research do not have to be RCTs, they can be simple A/B tests or pre-post evaluations.

5 Team

Determine who will be responsible for carrying out each phase of the research process. Given that the implementation

team has the best understanding of the program and access to stakeholders, they should be closely involved or fully responsible for the research.

6 Opportunity to iterate

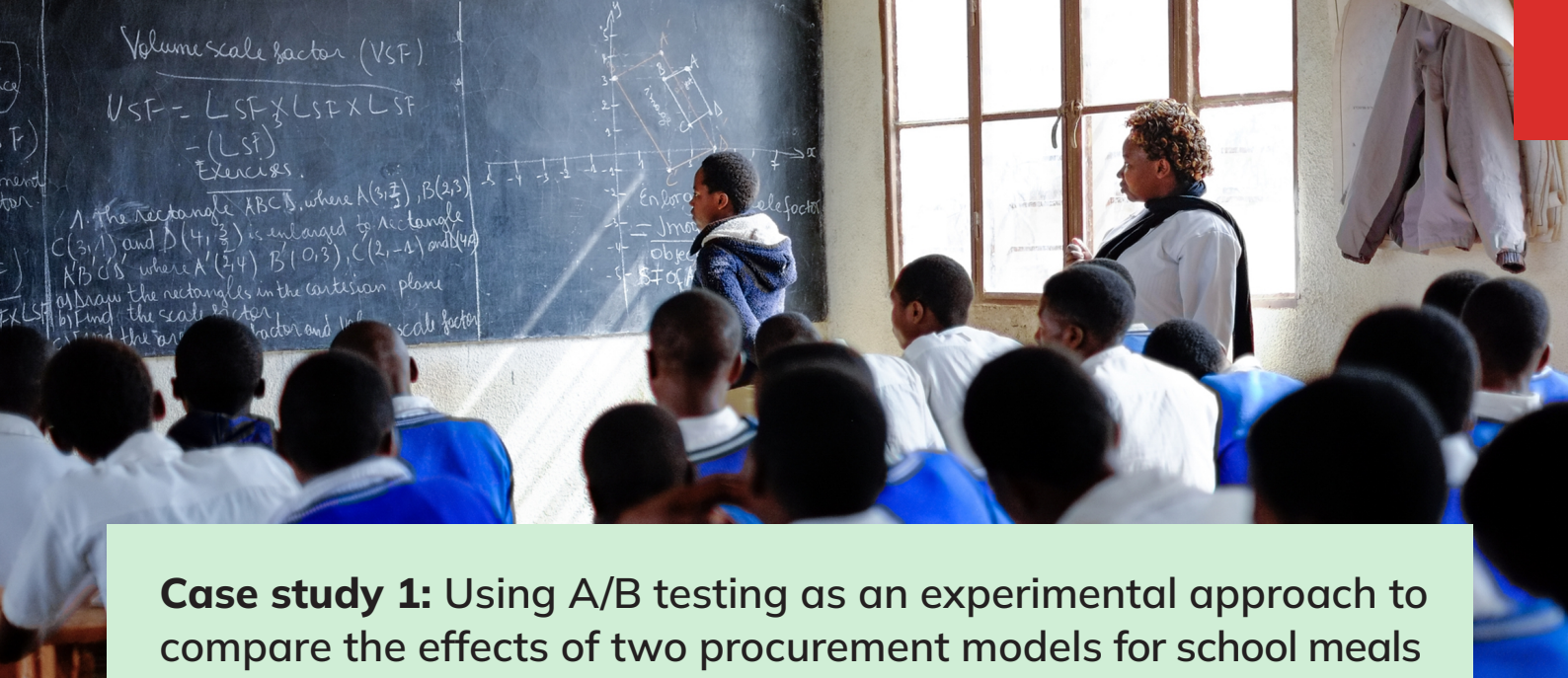
Assess if the intervention has the flexibility for evidence-based adaptations in real-time. Ideas or a smooth process:

- > Make sure that all stakeholders understand the flexible and adaptive approach: a key benefit of implementation research is that stakeholders don't have to wait until the research is completed to make improvements.
- > Consider if, when, and how the implementation can be adapted based on research findings, lessons learned and any factors that limit the capacity of the intervention to adapt in the future.

7 Feedback loops

Build internal capacity for rapid evaluation by establishing feedback loops that allow for quick sharing of findings within the implementation team. The goal is to strengthen the team's capacity to collect and analyse data in rapid cycles while the program is being delivered.





Case study 1: Using A/B testing as an experimental approach to compare the effects of two procurement models for school meals (World Food Programme, 2024)

Context and Objective:

A WFP's school meal program in Burundi was first set up with a centralised procurement model to deliver food to schools. In 2022, they piloted a new procurement solution based on commodity vouchers with local cooperatives distributing directly to schools. The model aimed to increase the proportion of locally-produced school meals.

A lean impact study was implemented to evaluate whether the new procurement model influenced the performance of meals distributed by schools (e.g., quantity, diversity, and quality of meals). Rather than focusing on outcome-level changes typical of impact studies, this lean study focused on output-level changes, such as implementation quality and service delivery to targeted groups, to understand feasibility before scaling.

Research design:

The study relied on A/B testing to evaluate the efficiency of the two models. To do this, the team compared the school delivery outcomes from 50 (randomly selected) schools enrolled in the new procurement model, with 45 schools

remaining in the centralised model. By comparing measured usage patterns, outputs, or outcomes between groups, the 'A/B tests' revealed which model was more effective at addressing problems identified. In this way, A/B tests can quickly measure the effectiveness of different process or intervention choices during program implementation. These insights can then be used by implementers to learn and adapt based on rigorous evidence on what works best in their contexts. In emergency contexts, the lean approach may also address potential ethical concerns because it doesn't need a control group that doesn't receive any support.

Findings:

Insights from the first year of the pilot showed that schools enrolled in the new community voucher model had a 75% higher number of meal-days compared to schools in the centralized model, with the meal-day coverage in the new community voucher model reaching nearly 100% compared with 50% in schools in the old model.



Case study 2: Qualitative approaches to assess implementation outcomes including acceptability, uptake and sustainability (Aarons and Palinkas, 2007)

Study Objectives

For this study, Aarons and Palinkas (2007) looked into the perspectives of service provider to understand the implementation process of SafeCare, a child welfare program. Their goal was to explore which factors might be modifiable in order to facilitate implementation. The study evaluated various outcomes by investigating elements that providers experience as implementation barriers or facilitators.

Research Design

The study relies on qualitative approaches to analyse providers' perspectives. Qualitative methodologies are a useful approach to obtain in-depth knowledge on stakeholders insights, incentives, experiences or preferences. The participants of this study were fifteen case managers and two ongoing consultants directly involved in SafeCare. Manager participants were selected to represent those having the most positive and those having the most negative views of the program, based on results of a web-based quantitative survey asking about the perceived usefulness and value of SafeCare.

The researchers conducted semi-structured interviews with a guide designed to identify barriers and facilitators to

implementation. The interview scripts were analyzed using “Coding Consensus, Co-occurrence, and Comparison” as a methodology. First, the researchers independently coded the interview content to condense the data into units easy to analyze. Segments of text ranging from a phrase to several paragraphs were then assigned codes based on previously established or emergent themes. Three randomly selected complete transcripts were also independently coded by each researcher. The final list of codes, constructed through consensus, consisted of a numbered list of themes, issues, accounts of behaviors, and opinions that related to organizational and system characteristics that influence the implementation of SafeCare.

Findings

Six factors emerged as critical determinants of implementation:

- (1) Acceptability of program to the case-worker and to the family,
- (2) Suitability to the needs of the family,
- (3) Caseworker motivations,
- (4) Experiences with being training,
- (5) Extent of organizational support for implementation, and
- (6) Impact of the program on the process and outcome of services.

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About Laterite

Laterite is a firm rooted in Africa and specialized in research for social impact. Our approach is structured, data intensive and embedded in the local context.

Laterite was founded in Rwanda in 2010 and has since expanded to Ethiopia, Kenya, Uganda, Tanzania and Sierra Leone, with a support services office in the Netherlands. In 2024 Laterite took its first steps in Latin America and opened an office in Peru.

Our core sectors of expertise are agriculture, education, gender, livelihoods and public health. www.laterite.com

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Acknowledgments

This paper was inspired by Laterite's contribution to uBoraBora, a project set up to strengthen the use of implementation research in improving foundational literacy and numeracy in Sub-Saharan Africa. We thank the team at Brink, our uBoraBora partners, for their knowledge and enthusiasm for the topic, the Laterite team on the project for their support and insights, as well as Sachin Gathani and Dale Barnhart.

Suggested reference: Laterite, 2024: Implementation Research in Education: what is it and where to start (Authors: Bea Ani-Asamoah and Ilse Peeters)

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