BUILDING EVIDENCE IN EDUCATION


# GUIDANCE NOTE ON USING IMPLEMENTATION RESEARCH IN EDUCATION

The purpose of this document is to provide guidance and support to the implementers of education interventions, partner governments, and funders of education reform as they consider research priorities and learning agendas to achieve SDG 4: ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Although many interventions aiming to improve quality, inclusion, and equity in education have been tested around the world, it is not always clear from the existing research base why they work, for whom they work, and what are the defining contextual circumstances under which they work. Further, even though there is an increasingly robust body of evidence on 'what works', taking interventions to scale through government systems often requires multiple iterations to achieve fidelity and a full understanding of the wider ecosystem.

Implementation research is concerned with why and how an intervention or reform works by considering the context, stakeholders, and process of implementation. This guidance note helps education stakeholders to design and oversee implementation research in order to answer questions and learn lessons about the contextual factors impacting the implementation of an intervention or reform in a particular government or implementer's system.

**Building Evidence in Education (BE²)***

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*BE² is a working group of over 40 bilateral education donors, multilateral education agencies and foundations active in education research, created in 2012 and led by a Steering Committee that is composed of the UK government Foreign, Commonwealth and Development Office (FCDO), the US Agency for International Development (USAID), the World Bank and a United Nations (UN) representative agency (currently, UNICEF Innocenti - Global Office of Research and Foresight). Contact: secretariat@building-evidence-in-education.org

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# Guidance note on using implementation research in education

## Foreword

BE² is a working group of over 40 bilateral education donors, multilateral education agencies, and foundations active in education research, created in 2012 and led by a Steering Committee that is composed of the UK government's Foreign, Commonwealth & Development Office (FCDO), the US Agency for International Development (USAID), the World Bank and a United Nations (UN) representative agency (currently, UNICEF Innocenti – Global Office of Research and Foresight).

BE² fosters collaboration and coordination to advance the quality and relevance of evidence in education. It promotes the accessibility and use of research that supports decision-making to improve education outcomes. BE² enhances the quantity and quality of evidence through the production of public good products, in particular a series of guidance notes, that are reviewed by all members and authorized by the BE² Steering Committee.

This guidance note has benefited from the advice of BE² member organizations and is intended to provide implementation research tools for commissioners of research, practitioners, and researchers.

### Steering Committee organizations

Foreign, Commonwealth & Development Office

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### BE² member organizations

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- Austrian Development Agency
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- Dubai Cares
- Echidna Giving
- Education Commission
- European Commission, EuropeAid
- Swiss Agency for Development and Cooperation, Federal Department of Foreign Affairs
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- Fundação Lemann
- Global Education Monitoring Report (GEM Report)
- Global Partnership for Education (GPE)
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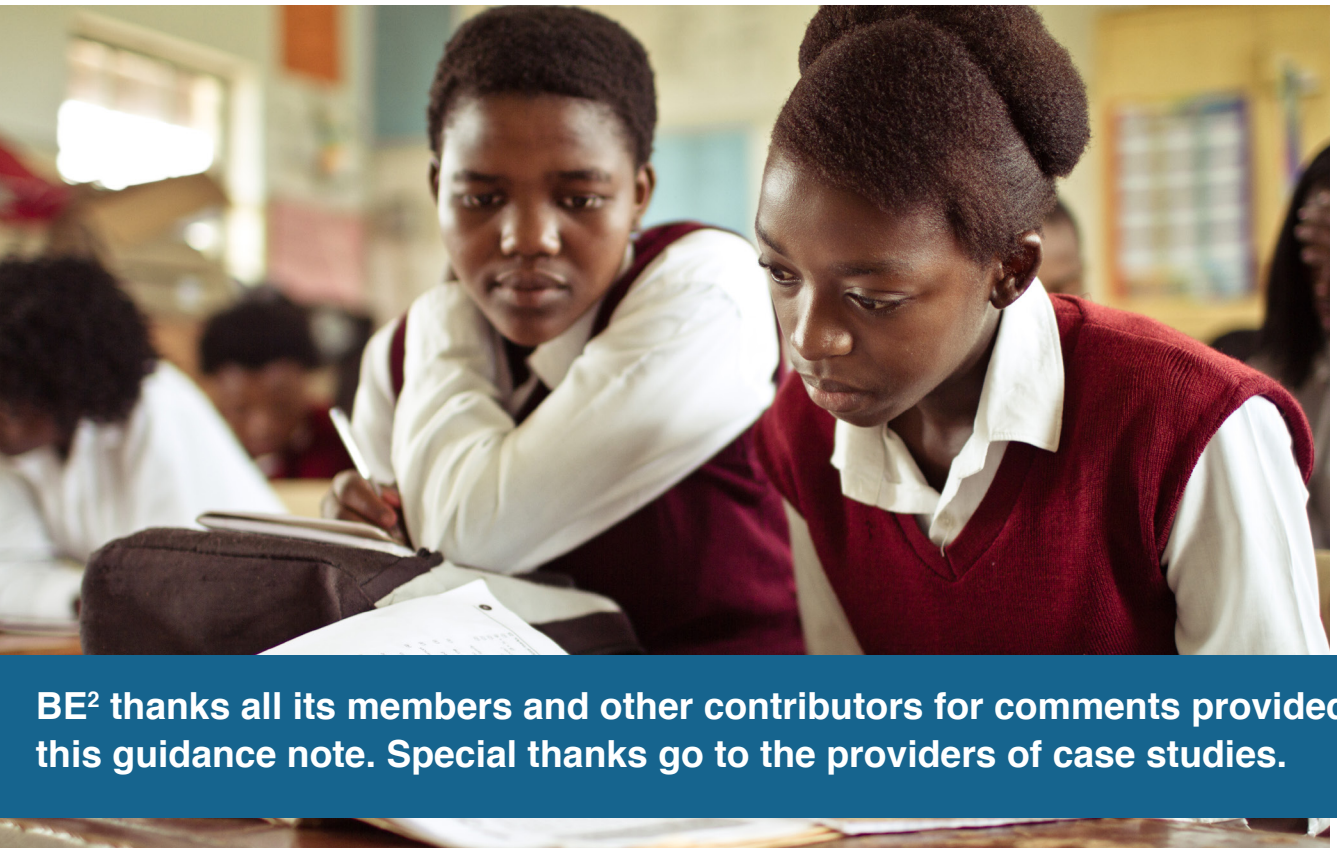
- The LEGO Foundation
- The MasterCard Foundation
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- UNESCO International Institute for Educational Planning (IIEP)
- UNESCO Institute for Statistics (UIS)
- United Nations High Commissioner for Refugees (UNHCR)
- United Nations Children's Fund (UNICEF)
- UNICEF Innocenti – Global Office of Research and Foresight
- United States Agency for International Development (USAID)
- World Bank Group
- Yidan Prize
- Youth Employment Funders Group (YEFG)

This guidance note has been authored by Christine Allison for the BE² working group. The note is based on the extensive work of the guidance note working group, consisting of: Amy Jo Dowd, Asyia Kazmi, Benoit d'Ansembourg, Benjamin Hickler, Bo Viktor Nylund, Cirenia Chavez, Clio Dintilhac, Elena Walls, Jessica Bergmann, Jill Popp, Keith Holmes, Kate Jefferies, Kate Ross, Marie-Helene Cloutier, Matt Brossard, Nadeen Alalami, Patrick Daru, Rebecca Pagel, and Taitos Matafeni. Other contributors included Rachel Hinton, and Deborah Greebon.



**BE² thanks all its members and other contributors for comments provided to drafts of this guidance note. Special thanks go to the providers of case studies.**

(A full list of case studies is available in this folder).

# Contents



# Abbreviations

**BE² - Building Evidence in Education**
**FCDO - Foreign, Commonwealth & Development Office**
**SDG - Sustainable Development Goals**
**M&E - Monitoring and Evaluation**
**IR - Implementation Research**
**DBE - Department of Basic Education**
**RCTs - Randomized Control Trials**

# Preface

**The purpose of this document is to provide guidance and support to those who implement education interventions, partner governments, and funders of education reform as they consider research priorities and learning agendas to achieve Sustainable Development Goal (SDG) 4: ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. This guidance note is the result of a co-creation process with members of a BE[2] working group.**

Although many interventions[1] aiming to improve quality, inclusion, and equity in education have been tested around the world, it is not always clear from the existing research base why they work, for whom they work, and what are the defining contextual circumstances under which they work. Further, even though there is an increasingly robust body of evidence on 'what works', taking interventions to scale through government systems often requires multiple iterations to achieve fidelity and a full understanding of the wider ecosystem. Yet, the body of literature on implementation processes remains limited, despite its potentially transformative value to the education sector.

Implementation research is concerned with why and how an intervention or reform works by considering the context, stakeholders, and process of implementation. This differs from efficacy research which asks the question about whether an intervention or reform **can** work in controlled circumstances. Implementation research is concerned with learning about an intervention or reform in real-time, therefore generating feedback loops and learning about wider lessons for implementation in other contexts or using alternative strategies. In short, implementation research is a useful tool to ensure that an intervention/reform achieves the results intended in specific contexts and at scale. Additionally, implementation research recognizes the central importance of stakeholder perspectives and involves them in critical reflections throughout the process. This guidance note helps education stakeholders to design and oversee implementation research to answer questions and learn lessons about the contextual factors impacting the implementation of an intervention or reform in a particular government or implementer's system.

**This guidance note is organized into five sections:**

- The first section defines implementation research and explains its usefulness in international education
- The second section discusses when it is appropriate to use implementation research and what questions it can answer
- The third section discusses research design, research questions, and methods for implementation research
- The fourth section provides information on how implementation research can be integrated into the running of an intervention/reform
- The fifth section, the annexes, contain an assortment of tools to assist with the design, execution, and oversight of implementation research.

[1] Intervention is defined as any policy, program, initiative, approach, strategy, or individual practice that is used to strengthen educational outcomes.

# 1. Introduction

## 1.1 What is implementation research?

Implementation research is **"the scientific inquiry into questions concerning implementation—the act of carrying an intention into effect, which can be policies, programs, or individual practices (collectively called interventions)."**[2] It is an **"examination of what works, for whom, under what contextual circumstances, and whether interventions are scalable in equitable ways."**[3]

Implementation research has a different focus than other research approaches. Implementation research is used to explore **why and how** an intervention/reform works or why it fails, as opposed to other research approaches that might only show the causal relationships between activities in an intervention/reform and improved education outcomes. For example, implementation research would be interested in which stakeholders are brought into an intervention and how they contribute to the launch and success of the intervention. Implementation research therefore generates real-time feedback to improve implementation. As the overall success of an intervention is an interaction between the context, stakeholders and intervention itself, implementation research, efficacy research, and other types of research and evaluation complement each other, all contributing to a deeper understanding of how education interventions can achieve quality, equity, scale, and cost-effectiveness.[4] Applying a systems thinking lens ensures that all stakeholders and interconnections within a system are taken into account.

**Example**

**There is ample evidence that inquiry-based instruction can be an effective teaching strategy. It is not clear if that approach can be utilized effectively within the human and financial resource constraints of a particular education system and within a specific cultural context. This would be an opportunity to conduct implementation research to find the most acceptable and efficient ways to implement inquiry-based instruction prior to taking scale.**

Whereas in other fields, such as health, implementation research may typically be used as interventions/reforms reach a stage of maturity, in education, **implementation research can be an important tool at all stages, beginning from early pilot activities[5] through implementation at scale, and in complex and dynamic situations such as responses to emergencies**.

It is therefore useful to consider how implementation research differs from other approaches to research, monitoring and evaluation, and programmatic feedback mechanisms as a useful management tool.

[2] David H. Peters, Taghreed Adam, Olakunle Alonge, Irene Akua Agyepong, and Nhan Tran, "Implementation research: what it is and how to do it," The BMJ 347 (2013): 1.
[3] Nancy Edwards and Pierre Barker, "The Importance of Context in Implementation Research," Journal of Acquired Immune Deficiency Syndrome 67 (2014): S157.
[4] In public health, the translational research continuum typically includes pre-intervention (development of a theory about relationships among the variables of interest), efficacy research, effectiveness research, and, finally, implementation research. For example, see Harvard Catalyst Community Engagement Program.
[5] In education, implementation research is relevant at early stages because most interventions/reforms ultimately are enacted through social interactions of teachers and students, which allow for much greater variation in implementation than a standardized treatment such as administration of a vaccine or prophylactic in public health settings.

## 1.2 What are the key principles of implementation research?

Implementation research places the implementation of an intervention/reform at the center of research, rather than intervention theories, methods, or discipline-specific concerns. It does so from a vantage point that education is a social system that involves multiple stakeholder groups that bring unique perspectives and constraints. Only through understanding of these perspectives can one begin to understand reasons behind behaviors and beliefs that inform the outcome of the intervention or reform. The sections below highlight the key characteristics of implementation research.

### Implementation research[6] is:

**Intentional and planned as part of an intervention's/reform's implementation.** Implementation research is a proactive learning process for understanding how and why an intervention/reform works. It produces essential knowledge in real-time to answer questions about replication, equity, scale, cost-effectiveness, and quality, and therefore is an important part of a practitioner's toolkit. Implementers must budget and plan for implementation research alongside implementation costs.

**Pragmatic and embedded in implementation.** Implementation research focuses on questions that are grounded, pragmatic, and related to the implementation of the intervention. Implementation research cannot be conducted in isolation from the implementation of an intervention/reform itself. It is ideally embedded from the outset, and the implementation team are critical members of the implementation research team (supplemented with research expertise as needed).

**Formative and real-time.** Implementation research uses responsive and flexible research designs, and it anticipates the need for multiple cycles of data collection and analysis. To facilitate adaptation and learning, results must be assessed and processed rapidly. Methodologies that can generate a quick turn-around are typically favored over those that require a long lead-time. Effective implementation research requires strong feedback loops that facilitate looking at pieces of the intervention/reform, adaptation, and learning from the beginning, as well as a robust system to document the feedback as it is received.

**Participatory.** One of the hallmarks of implementation research is its focus on stakeholder perspectives. Participatory designs engage those stakeholders in a direct and meaningful way – not through intermediaries or based on assumptions about what they want or need. Often this requires co-creation of the research design with stakeholders, including in the development of research questions, which allows it to be demand-driven and serves as a basis for collaborative decision-making using the findings and insights generated.[7]

**System-focused.** Implementation research focuses on the complexity of system in which the intervention or reform is taking place, namely the interactions between the intervention, the strategies used to implement it, the context (or, often, multiple contexts as an intervention/reform is taken to scale), and stakeholders' motivations to adopt the required knowledge, skills, attitudes, and behaviors to achieve the desired outcomes. In a real-world setting, none of these factors can be isolated from the larger systems in which they operate, so implementation research is a critical tool to understand how different elements of the system affect each other.

As with other forms of research, rigorous design and implementation of the research remains important, as do ethics considerations and safeguarding duties for minors, and any vulnerable populations who might be involved in the research.

[6] Adapted from Jane Lewis, Robyn Mildon, and Tom Steele, Cross - Sectoral Learning in Implementation Research: Harnessing the potential to accelerate results for children (Florence: UNICEF Office of Research –Innocenti, 2022)
[7] For additional information on effective participatory design, see Robert Chambers, Rural Development: Putting the Last First (New York, NY: Routledge, 2013); Robert Chambers, "Origins and Practice of Participatory Rural Appraisal, " World Development 22, 7 (1994): 953-969; Alison Napier and Nigel Simister, Participatory Learning and Action (PLA) (Oxford: INTRAC for Civil Society)

## 1.3 What is not considered implementation research?

It is helpful to elaborate on what implementation research is and to briefly touch on what implementation research is **not**:

- **Efficacy trials to select the context-appropriate intervention.** Implementation research is typically undertaken once there is some evidence base for a planned intervention/reform. If evidence of an intervention's/reform's efficacy is weak, then additional efficacy research may be needed and could be complemented by implementation research to examine specific questions around implementation
- **Ex-post facto studies at the end of implementation.** Implementation research deals with the processes by which an intervention/reform is carried out in real-time and how those processes interact with the context and stakeholders. Ex-post studies, even those that examine implementation processes, for example, would not be considered implementation research
- **Routine monitoring and evaluation (M&E).** Implementation research goes beyond routine M&E. While implementation research may rely on some data and data collection approaches from an intervention/reform's M&E systems (such as feedback from stakeholders), implementation research typically focuses on different questions and objectives.


## 1.4 Why is implementation research useful for education?

Just as an exceptional educator will achieve better results than a poorly trained educator using the same curriculum, excellent program implementation will achieve better results than poor program implementation of the same intervention. **How** programs are implemented can determine whether an intervention/reform is effective or ineffective (as well as **what** the program does). But it is not always straightforward to know how to ensure effective implementation in education where desired outcomes depend on individual teaching and learning behaviors. Furthermore, where resources are scarce, it is critical to ensure that information about the effectiveness of an intervention's implementation is available at the right time to make adaptations if needed, or to build on strengths. Implementation research is a flexible, responsive tool to improve the effectiveness of interventions/reforms in real-time while leveraging investments in M&E and accountability systems, and potentially when building stakeholder consensus around effective approaches to implementation.

Implementation research has long been used in health and other sectors to adapt and finetune interventions after the completion of efficacy trials, but before taking them to scale. Experience in these sectors demonstrates that implementation research in education must focus on three key factors:

- **Stakeholders' perspectives (including beneficiaries and implementers):** how their values, experiences, capacities, and constraints interact with the objectives and process of implementation. It is critical to ensure co-creation or other participatory approaches are utilized effectively and that implementation is responsive to or aligned with the normative frameworks of key stakeholders. It is also an opportunity to engage local stakeholders more deeply in the design and implementation of interventions/reforms
- **Context:** how its features may impede or facilitate implementation. Context includes geographic, ecological, and environmental constraints, as well as political and economic systems that structure the opportunities individuals and groups in a society have. A critical element of the political and economic systems is the capacity of key actors responsible for delivery of services. Context also encompasses the social norms that set expectations for individual behavior and guide interactions between individuals and groups. It is critical that the implementation of evidence-based practices is optimized to the local conditions and capacities
- **Intervention/reform:** how its component parts interact with the stakeholders and the context in the process of implementation. It also provides an opportunity to validate the theory of change on which the intervention/reform is based.

**In short, implementation research is a useful tool to ensure that an intervention/reform achieves the results intended in specific contexts and at scale.** When integrated into program implementation (see more in Section 4), it can provide early information on barriers or facilitators of effective intervention/reform delivery and allow for adaptation to maximize impact. But "When is it appropriate to use implementation research?" Section 2 addresses that question.

Photo credit: Team Kenya

## Case study

### Leaders in Teaching Initiative

The Leaders in Teaching Initiative (LIT), funded by MasterCard Foundation, addresses the need to strengthen the quality of secondary school teaching in Rwanda.

A number of interventions are being trialed based on four pillars: recruitment, training, leadership, and motivation. Research is conducted by the REAL Centre at Cambridge University and by a Rwanda-based research and advisory firm called Laterite. Together they are acting as 'learning partners', conducting real-time research into how the context and stakeholders shape the implementation of the interventions. For example, the learning partners explored teaching quality in the context of COVID-19 and engaged with delivery partners to understand how they adapted their delivery to the new operating environment. These lessons will be relevant to the implementation of other interventions in crisis situations. They also discuss how the individual interventions are impacted differentially by COVID-19 in particular contexts (e.g., rural location, resources) and how these contextual factors may undermine inclusivity and equitable outcomes associated with the intervention.

**Understanding how the intervention and the implementation can ensure equitable outcomes is a key aspect of implementation research.**

The learning partnership between REAL Centre at Cambridge University and Laterite was embedded into the initiative from the start and has uncovered important, actionable lessons about the implementation of the various interventions. This 'learning partner' approach is an interesting model for undertaking real-time implementation research.

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Reference:
Laterite and the REAL Centre at the University of Cambridge. (2020). Improving teaching quality in Rwanda in the context of COVID-19: Challenges and opportunities. Summary of July 2020 learning webinar, August 2021, Laterite, Rwanda and REAL Centre, University of Cambridge.

**More information**.

Credit:
Case study submitted by Laterite and the REAL Centre at the University of Cambridge and edited by the author of this document.

## 2. Appropriate use: When should implementation research be used?

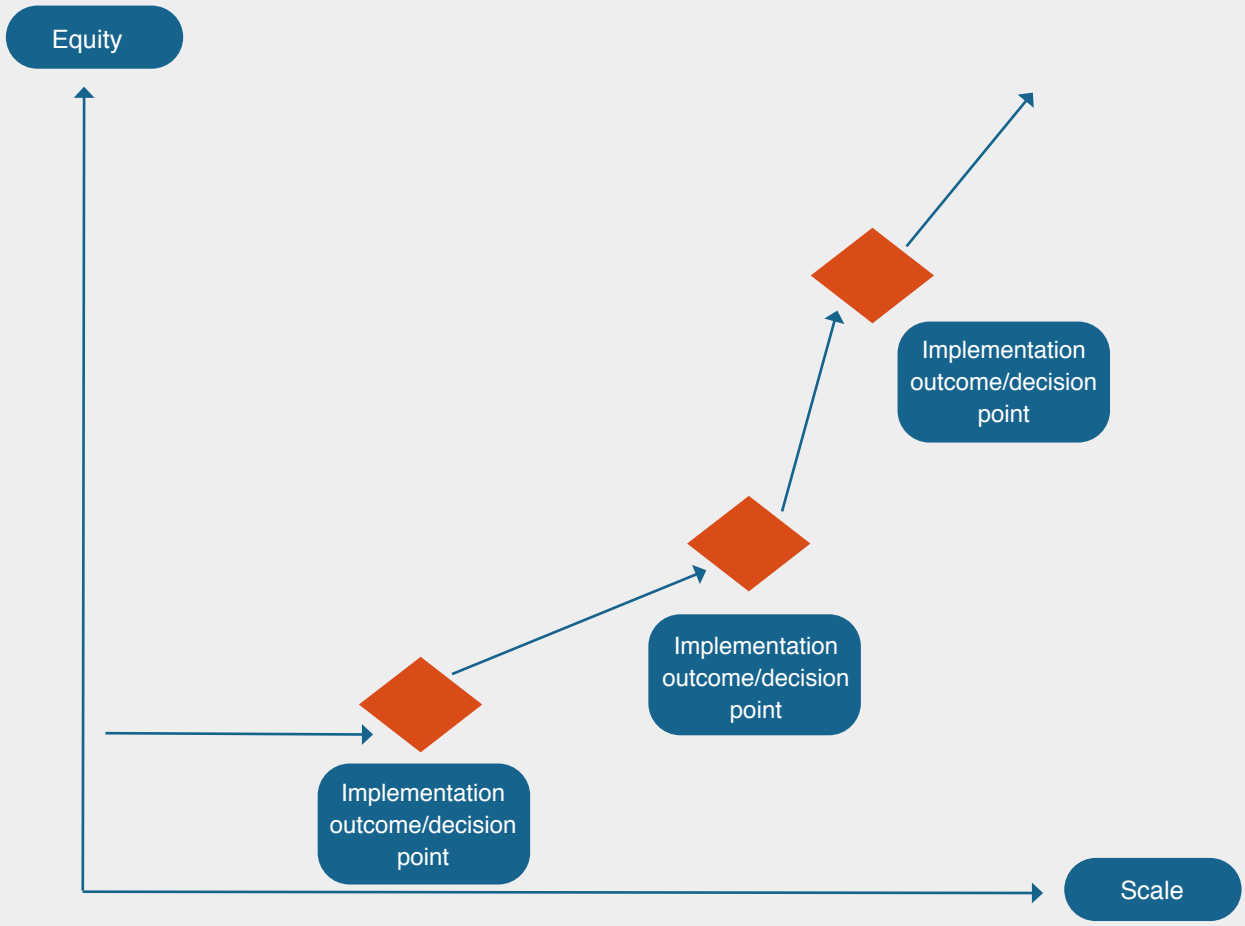
In education, implementation research has a critical role to play in providing actionable information, both early in an intervention/reform and later as an intervention/reform is being taken to scale, to ensure its success and maximize its impact. It should be used as a **proactive learning process** (complementary to routine M&E activities) that engages the system actors and enables stakeholders to understand how and why an intervention/reform works. To do this well, education stakeholders should intentionally **embed research into implementation from the outset**, from the initial planning stages of an activity. For all stakeholders, implementation research contributes to the good stewardship of funds allocated for education interventions and improved learning outcomes overall.

Drawing on an informal review of BE² members' recent experience with implementation research in education, the impetus for implementation research comes from one of three sources:

1. A wide-ranging research program, of which implementation research constitutes one phase;
2. A targeted implementation research activity associated with a specific intervention/reform that is initiated by a government or donor; or
3. An expansion of a special study or learning activity undertaken within an intervention/reform effort in response to initial stakeholder consultations or early results of implementation.

Another key criterion to consider is flexibility in the implementation process. As shown in Figure 1, the trajectory of an intervention/reform informed by implementation research may not be linear, but rather will reflect shifts in approaches in response to local conditions to achieve its goals.

**Figure 1. Implementation trajectory informed by implementation research**



The focus of implementation research on why and how an intervention/reform works should flow from key assumptions to be tested in an intervention's/reform's theory of change. Although early iterations of a theory of change might focus more keenly on the core elements of an intervention/reform than on the context or stakeholder groups, a mature theory of change

- recognizes the complexity of the system in which the intervention/reform (including experimentation among any delivery modalities and implementation strategies) takes place, and includes:
- the intervention/reform (including experimentation among any delivery modalities and implementation strategies),
- the context (how the intervention/reform interacts with various contexts in which it is implemented), and
- various stakeholder groups (including their motivations, level and process of engagement, and incentives or disincentives for the intervention's/reform's success).

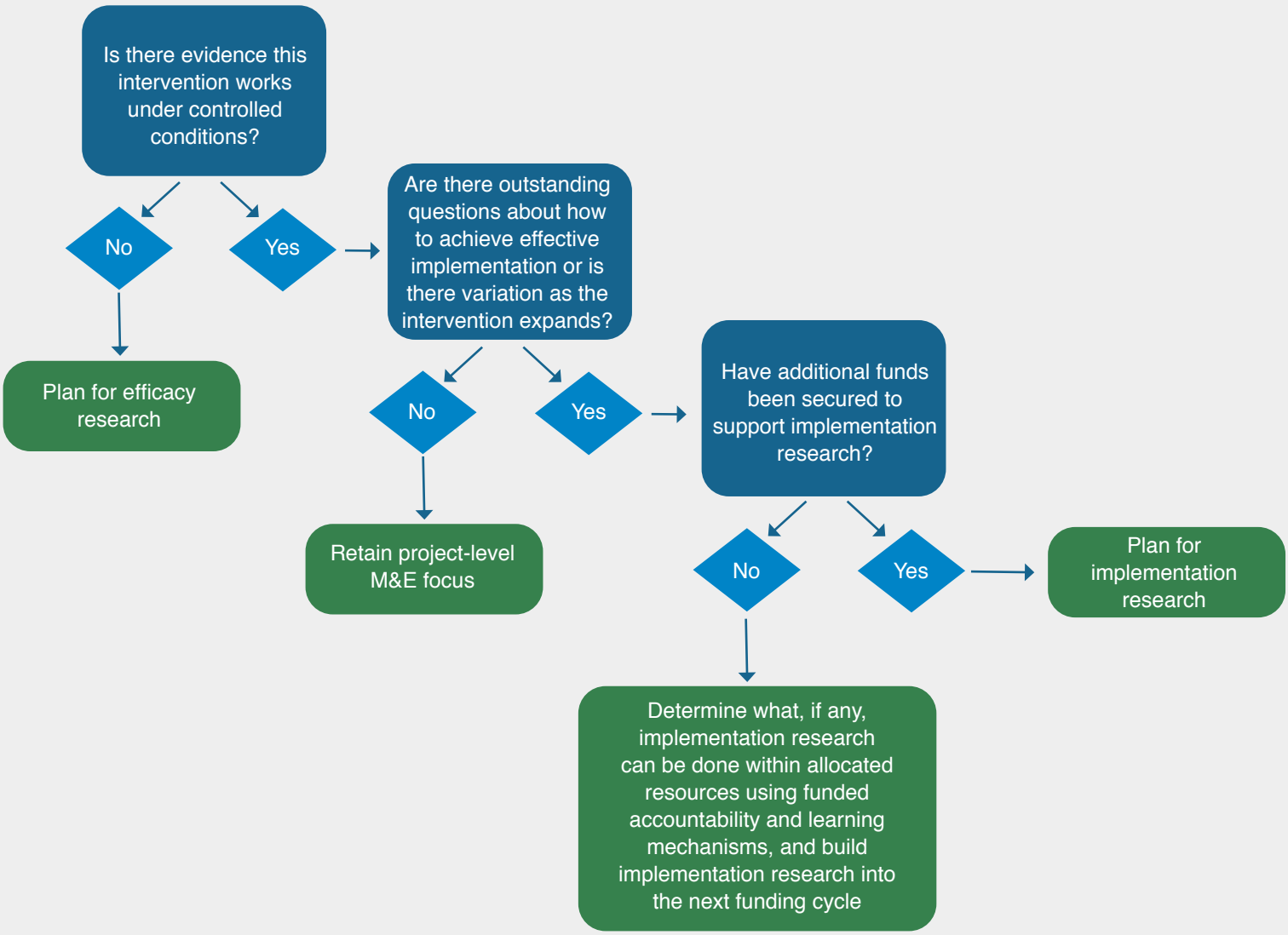
## 2.1 When is it appropriate to use implementation research?

Implementation research requires:

- A **learning mindset** and appreciation of the complexity of the education system in which the intervention/reform takes place among education leaders and stakeholders;
- A management structure that permits **adaptation** over the course of an intervention, and;
- A political will to support the learning and adaptation process.

Consider the decision tree in Figure 2 below as a guide for when implementation research may be the best choice for assessing the effectiveness of implementation.

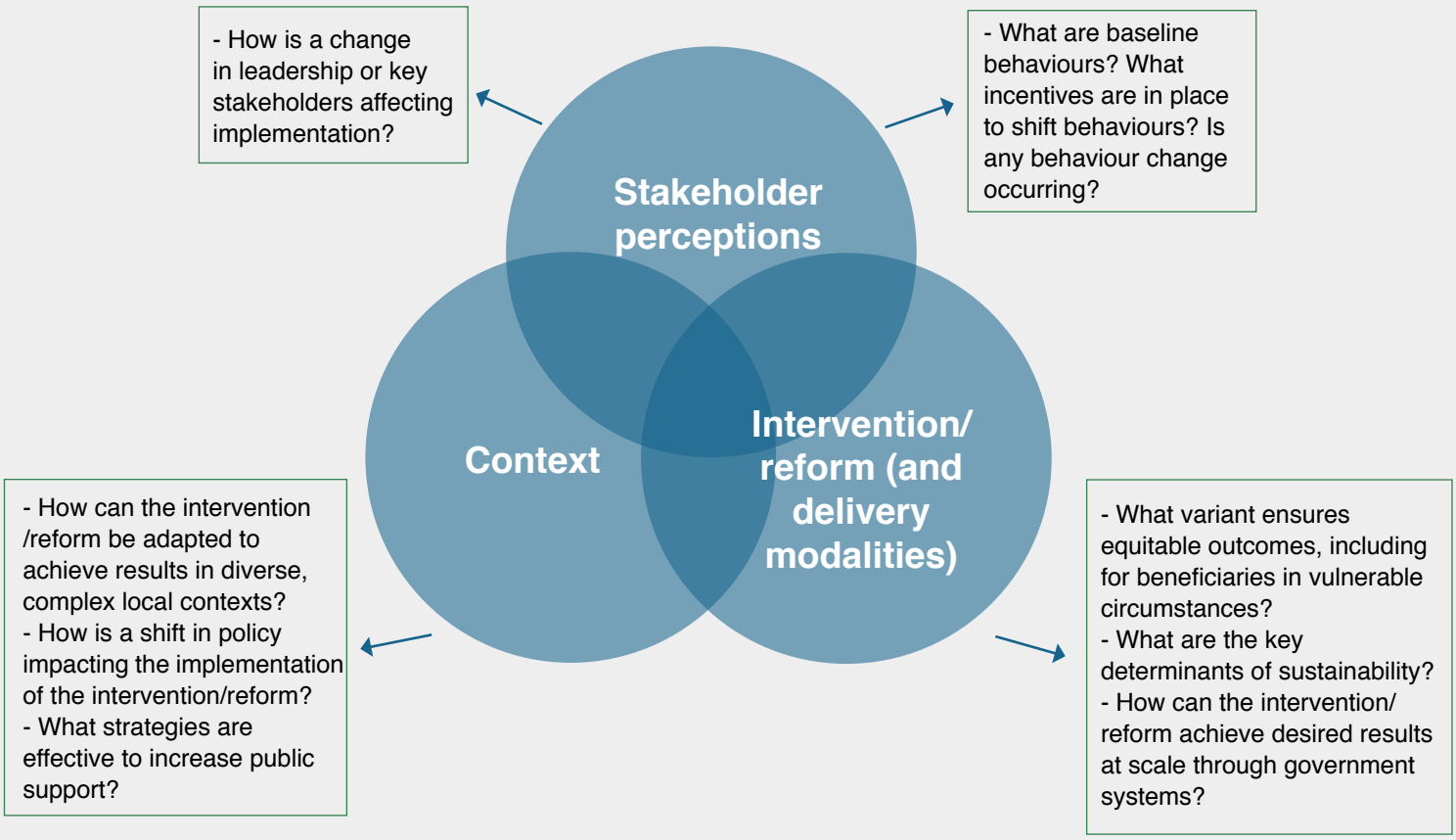
**Figure 2. When to use implementation research**



## 2.2 What are common areas of inquiry that implementation research can address?

It may also be helpful to think about implementation research as a tool that can help answer several common questions that emerge during replication and scale-up phases of an intervention/reform, including how each of the factors interacts with other elements of the larger systems in which they operate. It is useful to think about these areas of inquiry grouped by the key factors that are the focus of implementation research, as shown in Figure 3.

**Figure 3. Key areas of inquiry in implementation research**




As the research design will differ for each of the questions identified above, the next section, research design, will suggest implementation research designs and relevant data collection methods for each key area of inquiry.

Photo credit: World Bank

Case study

## Integrating implementation research in Schools2030 in Kenya

Aga Khan Foundation's (AKF) Schools2030 is a participatory learning improvement program operating across 10 countries, supporting the development and implementation of participatory learning at scale through human-centered design (HCD).

To achieve scale across varying contexts, Schools2030 recognized the importance of optimal implementation to achieve the intended results for local stakeholders and within local contexts. The program focuses on the key educational transition years for learners: from preschool to formal schooling (approximately age five); at the end of the primary school cycle (approximately age 10) and the transition from lower secondary school to higher education, skills training and the world of work (approximately age 15+). **In Kenya, Schools2030 works with 90 schools and 10 youth organization learning sites (in the coastal regions of Mombasa and Lamu), with two teachers or staff from each school/organization participating**. ThinkPlace is the national learning partner.

Stakeholder engagement started with an intent meeting with AKF staff and HCD facilitators to review the current challenges in delivering the program within the coastal Kenyan context, define success, identify the learning agenda and specific research questions, timelines based on implementation schedules, and modes and frequency of communication among the stakeholders.

One of the implementation research activities in Kenya focused on the following research questions:

- What are the different attitudes, behaviors and needs of participating teachers who are introducing HCD into their classrooms?
- What does the learning journey of participating teachers look like?
- Which phases of the HCD process have been more readily accepted and adopted by participating teachers, and why?
- How has the HCD process been adapted for the context, and why?
- What is the perceived usefulness of the tools and materials created to support the HCD process?

Using a mixed-methods approach, ThinkPlace, together with local research assistants, conducted individual interviews and focus group discussions. They observed training, and collected data through an online survey with teachers and school leaders, staff members from youth development partners, and lead facilitators who guide participating teachers through the HCD process. Cohort and lead facilitators from the local schools helped validate learnings through regular check-ins to ensure the insights generated were programmatically relevant.

Once data collection began, stakeholders participated in regular debriefing and synthesis sessions with the core research team. These synthesis sessions also served as an opportunity to co-create recommendations for adaptations.

## Case study continued

The results of the first year of the implementation research process yielded a number of adaptations in both practice and how implementation research will be conducted in future years:

1. Through the research, ThinkPlace developed four learner personas/profiles that characterize the different attitudes, behaviors, and needs of teachers participating in Schools2030. These were created to be used as a tool to help identify the characteristics, potential pain points and what participants may need to be able to succeed in carrying out HCD. These findings have resulted in a number of programmatic adaptations, such as changes in delivery modes, supports offered, and a devolution of responsibility for facilitation activities in some sites.

2. ThinkPlace identified five essential building blocks to improve the implementation of HCD processes in Kenya. Then, with participating teachers, they co-developed a tool to evaluate the solutions emerging from the HCD process through an HCD sprint, which engaged teachers in the prototyping and validation of the tool. HCD facilitators now use the tool to assess the promise of solutions at the latter stages of the process as teachers prepare to showcase their innovations.

3. A shortened, simplified 'sprint' version of the HCD toolkit has been developed for the Kenyan context to reduce the burden on participating teachers.

4. The timing of each HCD cycle has also been adjusted to allow for more time for innovation and prototyping of solutions.

Credit:

Case study submitted by the Aga Khan Foundation and ThinkPlace and edited by the author of this document.

Case study

## Implementation research design for LEGO Foundation's Playful Parenting Initiative in Bhutan, Rwanda, Serbia, and Zambia

LEGO's Playful Parenting Initiative aims to take sustainable playful parenting approaches to scale.

To better understand the impacts of different implementation approaches, LEGO's learning partner, FHI 360 is conducting implementation research to examine the impacts of four different country programs on caregivers, service providers and children. Using a broad framework called **ExpandNet** to identify and build consensus around variables of interest related to scale, the stakeholders developed a series of research questions related to **scale and sustainability**:

- What were the variable outcomes among caregivers and children benefiting from the program?
- How do parenting norms and attitudes of caregivers inform the program's messages and delivery? (e.g., What do mothers do? What do fathers do? What resources are available and used?)
- How do differing approaches to workforce training, delivery, and knowledge about parenting influence the likelihood of going to scale and yielding positive outcomes?
- What core features of the program help move to scale? (comparative across programs)
- What processes are effective to transfer program ownership to government and strengthen the enabling environment for scale?

In order to answer these questions, the stakeholders are using a sequential, mixed methods design over a four-year period to capture learning and adaptation over time. A critical factor in the development of data collection instruments and protocols was the adoption of well-tested, rigorous metrics for the variables of interest if they existed and developing others out of a compilation of best practices. Data collection methods include:

- Structured observations (health provider training, parent and child interactions)
- Pre- and post-tests (health provider competence after training)
- Survey (provider workload, parent provision of stimulating activities)
- Focus group discussions (parents, particularly around norms and attitudes)
- In-depth interviews (implementing partners, providers, stakeholders at national and local levels, including government agencies and Non-Governmental Organisations) and
- Program document review.

Credit:

Case study submitted by FHI 360 and edited by the author of this document.

# 3. Research design: What are the key elements of design?

**This section reviews the key elements of research design and then discusses possible research designs to address the commonly asked questions identified in Section 2.**

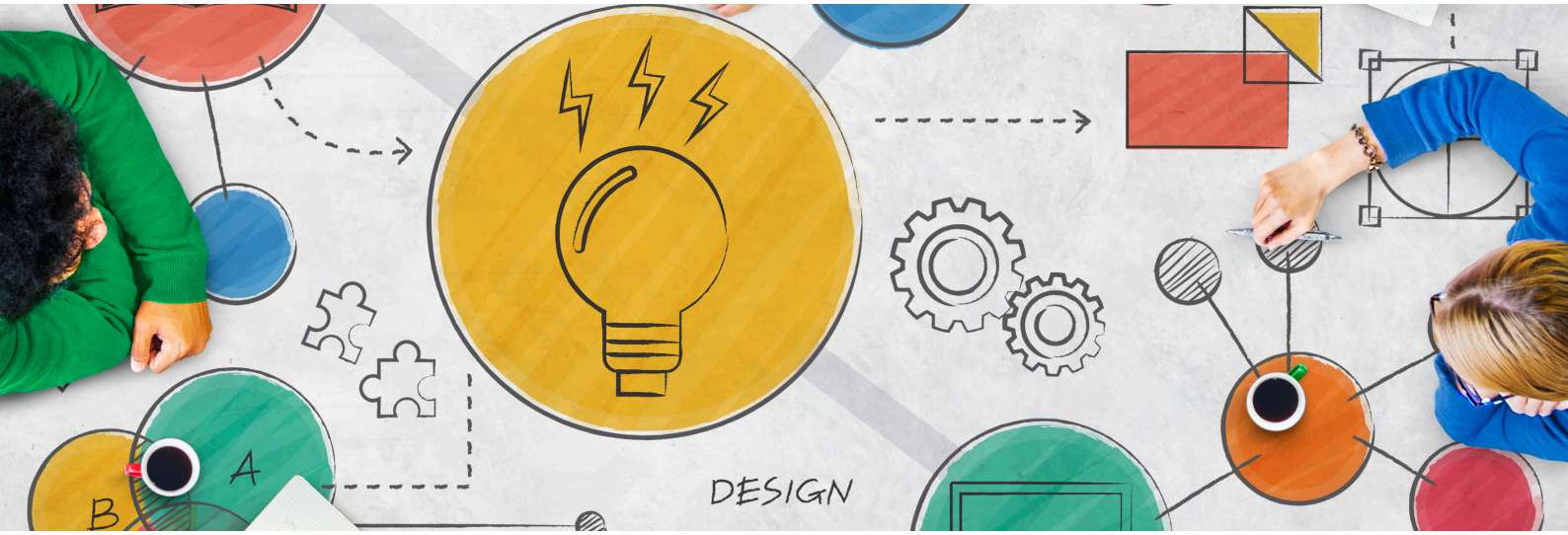
## 3.1 What are the elements of implementation research design?

**Research design is the first step in undertaking effective implementation research[8] (see Annex B.1 for a research design planning template).** Like other types of research, the research design should be documented in an inception report, work plan, or research design document that usually includes seven key sections which together guide the research activity:

- **Research purpose:** A statement that concisely explains the purpose of the research. The purpose of implementation research is typically to generate real-time, actionable information to improve the implementation of a specific intervention/reform. This section also usually specifies who are the intended audiences and how they expect to use the information generated through the research study
- **Research questions:** Listing of the specific questions to be answered by the study. Implementation research questions focus on some aspect of intervention/reform implementation (stakeholder perspectives, context, or intervention/reform and variants), as noted in prior sections
- **Research participants and sampling:** Who will participate and how they will be selected. The design typically identifies the intended participants for the research study and how the research team will select those who are invited to participate in the study, along with any plans for the selection of alternates. Some sampling procedures may be purposive to capture specific perspectives or types of knowledge while others may be more representative of groups or populations depending on the research questions to be answered. Ethical review by a national ethics committee or institutional review board may be necessary, particularly for any research that involves children or individuals in vulnerable circumstances
- **Inquiry methods:** How the information will be obtained. The research design generally discusses what inquiry method(s) will be used for each stakeholder group and how those methods will contribute to answering the research questions. This section often details the procedures to be used for each inquiry method and the timing of inquiry. As noted earlier, implementation research favors flexible, rapid turn-around inquiry approaches that produce real-time information. Many resources exist to assist with the selection of appropriate inquiry methods, including BE²'s other guidance notes[9]
- **Analysis plan:** How the raw data will be analyzed to produce answers to the research questions. The design often includes an initial data analysis plan that describes the specific approaches to synthesizing and interpreting the data to answer the research questions, including involvement of system actors in the process. The analysis plan can then serve as the basis for drafting an initial report (see Annex B.2 for an example)
- **Limitations:** A disclosure of assumptions, dependencies, and any other factors that might affect the quality or reliability of the research findings. All research studies have limitations, and it is useful to consider those in advance
- **Learning and application:** How the information will be used for decision-making, including the timing of key decision points and how the findings will be used.

**The research design, while having shared elements, will vary depending on the questions to be answered. As research questions evolve over the life of an intervention/reform, the research design will be updated or iterated to reflect the fact that evolving research questions may require different respondent groups, methods, and analysis methods. The next section provides illustrative examples of how the designs may vary.**

[8] See Youth Excel's Research for Change Toolkit for additional resources for designing implementation research.
[9] See Guidance Note for Qualitative Research in Education: Considerations for Best Practice, Cost Measurement Guidance Note, Generating Evidence in Education: Impact Evaluations, and Assessing the Strength of Evidence in the Education Sector.




## 3.2 How might implementation research be designed for common research questions?

Section 2 posed several common questions that may be addressed by implementation research. The discussion below identifies each of those potential research questions and the data collection methods that could be used to answer the question.

### Stakeholder perspectives

**What are the baseline behaviors of the key stakeholders? What incentives are in place to shift those behaviors? Is there any evidence of behavior change? What are the differences in stakeholder perceptions about needed behavior changes and how can those be reconciled?**

When the lack of desired behavior change is a critical barrier to **adoption** and/or **fidelity**, understanding the stakeholder motives becomes critical. A study focused on this may require a range of methods, including structured observation to record baseline behaviors, stakeholder surveys, open observation to understand why change is difficult or why alternate behaviors have more value to stakeholders, real-time communication analysis to capture how messages are received and understood, focus group discussions, and key informant interviews. Where sensitivities may exist around the expected behavior change, it may be more fruitful to rely more heavily on interviews than focus groups to minimize respondent reticence and maximize the utility of the information collected.

**How appropriate and acceptable is the intervention/reform to stakeholders in a specific region or community?**

**Appropriateness** and **acceptability** of an intervention/reform are critical to its success, and some implementation research may therefore need to examine this question. Data collection methods to address this question would start with stakeholder analysis and may include system mapping workshops, causal loop diagramming, key informant interviews with leadership and key technical personnel, and open observations of and focus group discussions with beneficiaries to gather information about their reactions to the intervention/reform. In addition, it may be useful to include real-time analysis of communications with stakeholders to understand the information flows to and from them.

### Context

**How can the intervention/reform be adapted to achieve results in this diverse, complex local context?**

This question, often focused on **equity** and/or **appropriateness**, requires a research approach that captures the critical interactions between context and intervention. Data collection could include a wide range of methods: controlled and open observations to understand localization of the intervention's core practices (including capacity-related factors); data mining to understand differences in outcomes by geographic or demographic factors; and key informant interviews, focus groups, and real-time communication analysis to understand perceptions of the intervention/reform (intent, processes, expected outcomes, etc.).

### How is a shift in policy impacting the implementation of the intervention/reform?

This is a common question that addresses implementation challenges that arise from shifts in the external environment that influence the **adoption**, **fidelity**, or **sustainability** of the intervention/reform and the implementation research process. For these challenges, implementation research will focus on the context external to the intervention/reform itself. Data collection methods would include a review of existing and new policies, laws, or regulations related to the intervention; key informant interviews with leadership and key stakeholders (including those in Ministries of Finance or Planning and potentially others outside the education sector), and open observations of and focus group discussions with beneficiaries to gather information about their reactions to changes.

### What strategies are effective to increase public support?

In some situations, engaged stakeholders might fully support an intervention, but support may be lacking from the wider public, indicating a lack of **acceptability**. Implementation research might help generate strategies and compare the impacts of various strategies to increase support by geographic or demographic factors. Public opinion polls and focus groups can be useful tools to understand why support is not robust and how the public might be engaged more

## Intervention/reform and delivery modalities

### What variant ensures equitable outcomes, including for beneficiaries in vulnerable circumstances?

**Equity** is often a critical question, and this will require an examination of the intervention/reform processes and outcomes for different populations of interest.

Depending on the time and resources available, a research design might propose multiple approaches to answer this question. Qualitative data collection would likely include key informant interviews, focus groups, and observation to understand the varying experiences of beneficiaries. In addition, data mining of administrative data could help identify systematic differences in outcomes by subgroups (as opposed to individual practices and individual-level outcomes). In situations where time and resources are less constrained, it may also be possible to conduct an experiment with multiple variants of the intervention/reform to assess effectiveness for various subgroups of beneficiaries.

To obtain information about varying processes with different populations, systems thinking approaches[10], such as system mapping or causal loop diagramming, as well as key informant interviews with implementers and focus groups with learners (and/or their caregivers) will be useful. Direct observation may also be useful to compare delivery. In this case, the qualitative data will likely be complemented by quantitative learning outcomes data, which could take many forms (routine educator assessments, standardized tests, specially administered benchmark tests, etc.). Extensive data analysis on the patterns of content uptake will be particularly useful.

### What are the key determinants of sustainability?

**Sustainability** of an intervention/reform is frequently one of its sponsor's key aims. A wide range of factors may influence sustainability, and therefore a range of research designs may be appropriate. Some of the key factors that are frequently included in studies of sustainability include financial sustainability, institutional capacity, and political will or "ownership" of an intervention. Financial sustainability may involve financial analysis and a budget process review (see **Cost Measurement Guidance Note** for additional guidance on approaches to cost measurement and analysis). Institutional capacity assessment may involve open and controlled observations, process reviews, and key informant interviews. In addition, key informant interviews may be used to assess political will and long-term commitment to the intervention.

[10] Useful resources about systems thinking include:

- Faul, M., Savage, L. (2023). Systems Thinking in International Education and Development. Systems Thinking in International Education and Development – Unlocking Learning for All? | Elgar Online: The online content platform for Edward Elgar Publishing
- Boulton, J. G., Allen, P. M., & Bowman, C. (2015). Embracing complexity: Strategic perspectives for an age of turbulence. Oxford: Oxford University Press.
- Green, D. (2016). How change happens (p. 288). Oxford University Press.
Bamberger, M., Vaessen, J., & Raimondo, E. (Eds.). (2015). Dealing with complexity in development evaluation: A practical approach. Sage Publications.
- Kimmerer, R. W. (2013). Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants. Milkweed Editions.
- Odora Hoppers, C. A. (Ed.). (2002). Indigenous knowledge and the integration of knowledge systems: Towards a philosophy of articulation. New Africa Books.

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### How can the intervention/reform achieve desired results at scale through government systems?

As this question can be viewed as a variant of the question above on **sustainability**, many of the methods that are useful for assessing sustainability are useful to answer this question as well. Key informant interviews, focus groups, controlled or open observations, and capacity assessment may all be relevant approaches to obtain data. In addition, data mining and analysis of administrative data may also provide insights into thresholds for desired results given variations in service delivery.

Section 4 will address how interventions can work implementation research into their activities.

Photo credit: UNESCO

Case study

# Using implementation research to improve UNICEF's digital learning initiatives

Working alongside governments and other in-country partners, UNICEF embeds research into the implementation of digital learning initiatives in 18 countries.

## 1. Introduction

Digital learning has the potential to offer interactive and personalized learning for children, both in and out of school. However, depending on their design, delivery and use, the introduction of education technologies (EdTech) can also exacerbate learning inequalities. UNICEF Innocenti - Global Office of Research and Foresight works with partners around the world to embed implementation research into digital learning initiatives to improve their delivery with a focus on how they can be used to reach marginalized children. The digital learning research portfolio currently active in 18 countries leverages UNICEF's global reach and local capacity, working to build research into three large-scale digital learning partnerships to improve the way that UNICEF, governments, and partners:

- **Deliver digital learning offline** - The Learning Passport partnership between UNICEF and Microsoft has developed a fully interactive digital learning experience that is contextualized and customized by countries and can be used with or without the internet
- **Unlock opportunities for children with disabilities** - The Accessible Digital Textbooks initiative develop digital learning tools with features that allow children with disabilities to engage with the same content and in the same classroom as their peers
- **Develop foundational skills with a fun learning app** - The UNICEF – Akelius Foundation partnership co-creates and implements an interactive and gamified app for language learning with a focus on marginalized children including refugees, migrants, and linguistic minorities.

## 2. Co-creation of implementation research

Implementation research is initiated through a co-creation approach where implementation and research plans are built together with UNICEF Country Offices (COs), Regional Offices (ROs), HQ, governments and other partners at country level:

- COs lead in the implementation of digital learning programs, together with government and partners in country, based on the specific needs of the COs
- Regional Offices and the HQ education team provide technical, programmatic, and coordination based on implementation challenges faced by various countries
- UNICEF Innocenti provides implementation research direction and technical support, coordinates data collection, analysis and feedback activities, and leads writing on findings in close collaboration with COs, ROs and HQ.

Research methods and tools are determined jointly in order to achieve two goals: 1) to track progress, challenges and solutions to continually improve digital learning programs throughout implementation; and 2) to understand impact, cost-effectiveness, and document key implementation steps for future scale.

## 3. Implementation research in practice

Mixed methods research is embedded into the different implementation stages of digital learning from preparation to proof of concept or implementation trial to larger scale up. Throughout the process the research aims to provide rapid feedback, inform adaptations in program delivery and guide each subsequent stage. Co-creation of both the implementation and research is crucial to ensure that research methods are fit for purpose to improve overall implementation, building on and improving existing processes for monitoring, data collection and analysis.

## Case study continued

**Step 1**

**Preparation** – as implementation and research plans are co-created prior to the launch of digital learning in schools or learning centers the following research activities are undertaken to help guide implementation plans. Co-creation of both the implementation and research and capacity building is crucial to ensure that research methods are fit for purpose to improve overall implementation, building on and improving existing processes for monitoring, data collection and analysis.

- **Digital learning needs assessment for schools and learning centers** – using contextualized school/center readiness checklist and analysis of existing data (including Education Management Information Systems (EMIS), school level assessments, etc.) to understand baseline needs for digital learning to facilitate selection of schools/centers, and the needs of teachers, and school administrators
- **Teacher training assessments and the development of teacher feedback tools** – assessments are used to understand teachers' capacities for digital and inclusive education. Teacher feedback tools are also developed with teachers so they can provide feedback on implementation of the digital learning program throughout the process based on their experience in real-time.

**Step 2**

**Implementation trial -** as the implementation of digital learning begins in a small number of schools and/ or centers (usually between two and 20) research focuses on implementation practices, logistical and pedagogical challenges, and solutions to address them. Within this stage the following tools are generally used:

- **Classroom observations** – to understand what goes on in the classroom, including teaching practices in the use of digital learning within lessons, and how teachers manage technology in the classroom
- **User feedback through focus group discussions and key informant interviews** – from teachers, students, parents and administrators based on needs of countries and specific use cases
- **Teacher feedback forms** – regular feedback from teachers is collected on how they use digital learning within their classrooms, challenges that they face which is fed back to project management, software developers and education administrators to improve implementation
- **Learning assessments/other education outcomes (attendance etc.)** – using data available at school level and back-end data from learning program itself.

**Step 3**

**Expansion and impact** – As digital learning programs expand to more schools and centers, UNICEF Innocenti - Global Office of Research and Foresight works with COs and governments to design mixed methods, experimental or quasi-experimental impact evaluations to understand cost effectiveness and impact. The data collection tools implemented during the stage two implementation trial are revised and adjusted to the context of the larger scale up.

## Case study continued

Step 4

**Analyzing results from Implementation research to inform adaptations in digital learning programming -** Throughout this process, research and analysis is fed back to practitioners, teachers, school leaders, UNICEF COs, and digital learning software developers. Below are some examples of how UNICEF Innocenti - Global Office of Research and Foresight implementation research in digital learning has influenced adaptations in programming:

**Designing digital learning programs**

- Conducting digital learning needs assessments with headteachers and teachers, in collaboration with the Ministries of Education, led to the development of school and classroom action plans for the introduction of the Learning Passport in Ghana and Guinea starting in 2023
- Qualitative feedback from teachers, children, and young people led to improvements in the design of digital learning in **Sao Tome and Principe**, Cabo Verde, and **Timor Leste**.

**Improving content, features and implementation**

- Feedback gathered from teachers and provided to software developers throughout implementation led to improvements in digital learning content and application features, and ultimately to improve learning for migrants and refugee children in **Greece** and **Lebanon**
- Classroom observations and user feedback during the testing of the Accessible Digital Textbooks (ADT) in **Paraguay** informed improvements in ADT content and implementation guidance for further scale up in 2023.

**Informing education in emergencies responses and digital learning policies**

- Rapid surveys of non-formal education centers in **Lebanon** during COVID-19 helped inform the emergency education response identifying key challenges faced by teachers of Syrian refugee students
- Implementation research in Italy during 2022 identified key good classroom practices in using digital learning for newly arrived students and children with disabilities, informing plans to expand the program to support the Ukraine response in 2023
- Gathering feedback on good practices for the use of digital learning in Bosnia and Herzegovina through the UNICEF – Akelius Foundation partnership informed the first federal level policy on blended learning in the country, which was adopted by all Cantonal Ministries of Education.

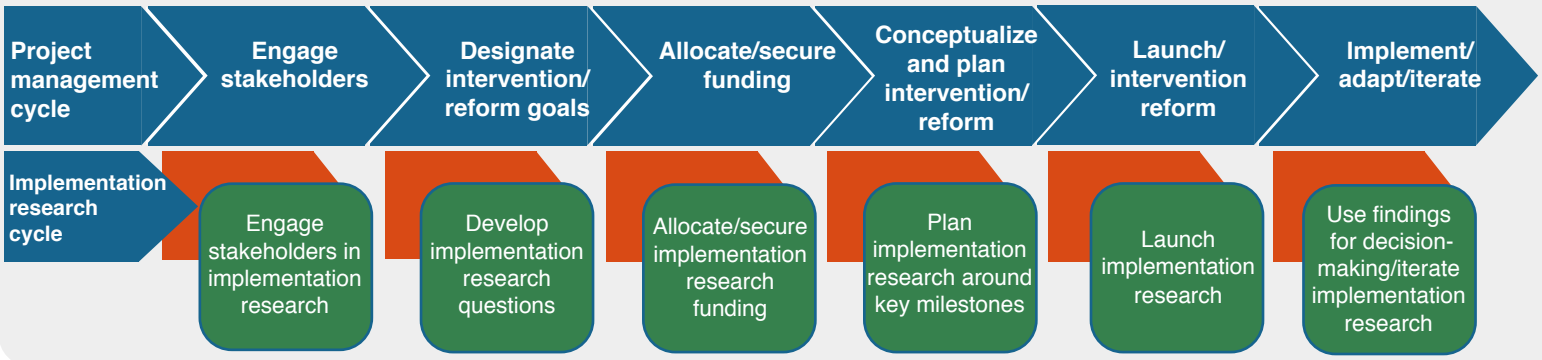
Credit:

Case study submitted by UNICEF Innocenti - Global Office of Research and Foresight and edited by the author of this document.

# 4. Implementation: How can implementation research be integrated into implementation?

Having determined that there is a need or an opportunity to conduct implementation research and having some ideas about how that might be done, the next stage is to understand how to integrate implementation research into implementation. Figure 4 shows the alignment of the project management cycle and the implementation research cycle. The key message of this section is that integration of implementation research should start from the beginning of the implementation – from the planning stages, when the need to expand or scale an intervention/reform has been determined. The sections that follow below highlight key considerations at each stage of the implementation research process: planning, design/co-design, implementation, and learning after addressing the critical question of who should be involved in implementation research.

**Figure 4. Project management cycle and implementation research cycle**




## 4.1 Who should be involved in implementation research and how?

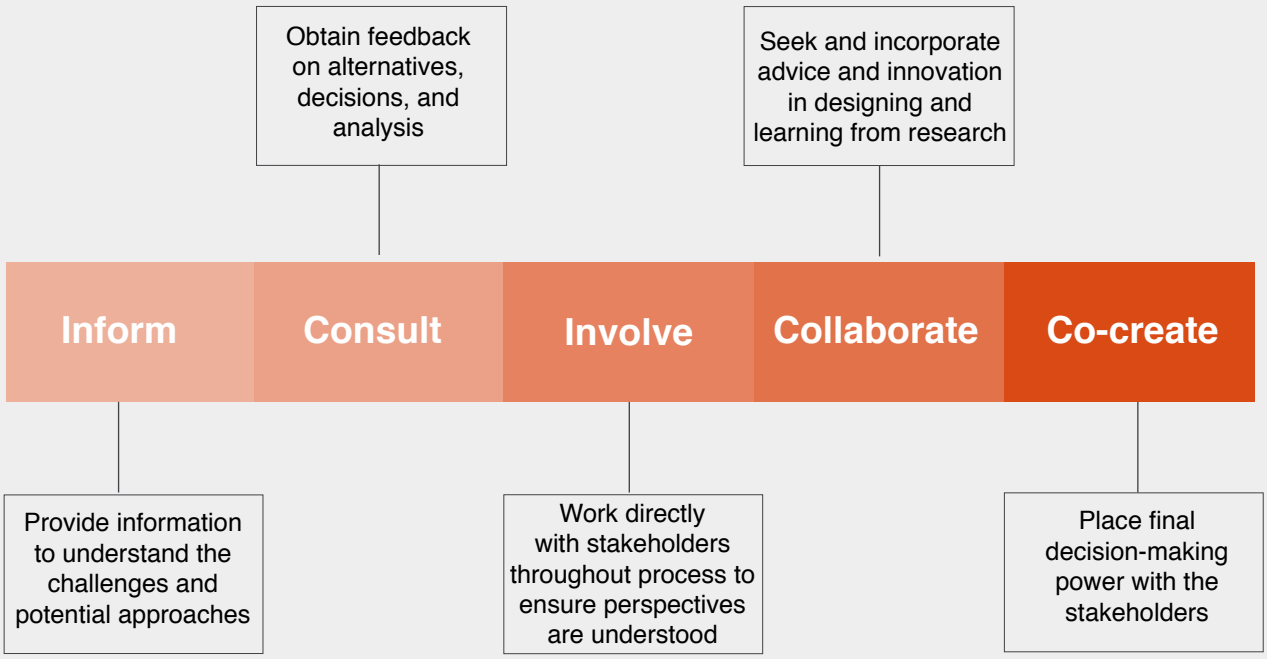
Implementation research should be empowering and involve a wide range of stakeholders, especially those who are directly impacted by the process and outcomes. These stakeholders can be drivers of the intended change. It is important to note that stakeholders' interests and goals in any particular intervention/reform will vary, and some may conflict. Whilst implementation research may provide a platform for generating greater consensus and improved alignment of interests, this will not always be the case. Politics can permeate the implementation of an intervention/reform and understanding and acknowledging that fact is important. Some stakeholders are in a position to contribute to or block the success of the intervention/reform.[11] It is therefore critical to be transparent with all stakeholders about the goals of the research and its potential limitations, including that it is not intended to support any particular position or advocacy purpose.

The process of implementation research should facilitate stakeholder groups to contribute directly and not through intermediaries. Realistically, however, not all stakeholder groups have the capacity to be equally involved. It may be useful to work with the relevant stakeholder groups once identified and determine the level of involvement they want to have, as well as strategies for reducing barriers to participation where feasible. This may include capacity development, considerations for timing and location, collaboration format(s), or other factors. The use of systems thinking approaches is also highly recommended to facilitate stakeholder engagement. Using the illustrative continuum of stakeholder engagement in Figure 5 below, stakeholders, implementers, and implementation funders can consider how best to involve each stakeholder group. Some stakeholders may be fully engaged as co-creators in the implementation research process, while others may only be consulted at key decision points, for example. A tailored engagement plan for each stakeholder point of contact may be useful to ensure that all stakeholders remain engaged throughout the research process and to maximize use of the research findings (see Annex C.2).[12]

[11] For more information about facilitating participation of stakeholders with differing agendas, see Lorraine M. McDonnell and M. Stephen Weatherford, "Recognizing the Political in Implementation Research," Educational Researcher 45, no.4 (2016): 233 – 242, DOI: 10.3102/0013189X16649945; William R. Penual, "Co-Design as Infrastructuring with Attention to Power: Building Collective Capacity for Equitable Traeching and Learning through Design-Based Implementation Research, in Jules Pieters, Joke Voogt, and Natalie Pareja Roblin, Eds., Collaborative Curriculum Design for Sustainable Innovation and Teacher Learning (Cham: Springer, 2019).

[12] For additional tools, see USAID's Engaging Stakeholders Toolkit and Evaluation Stakeholder Participation Planning Matrix.

**Figure 5. Continuum of stakeholder engagement[13]**



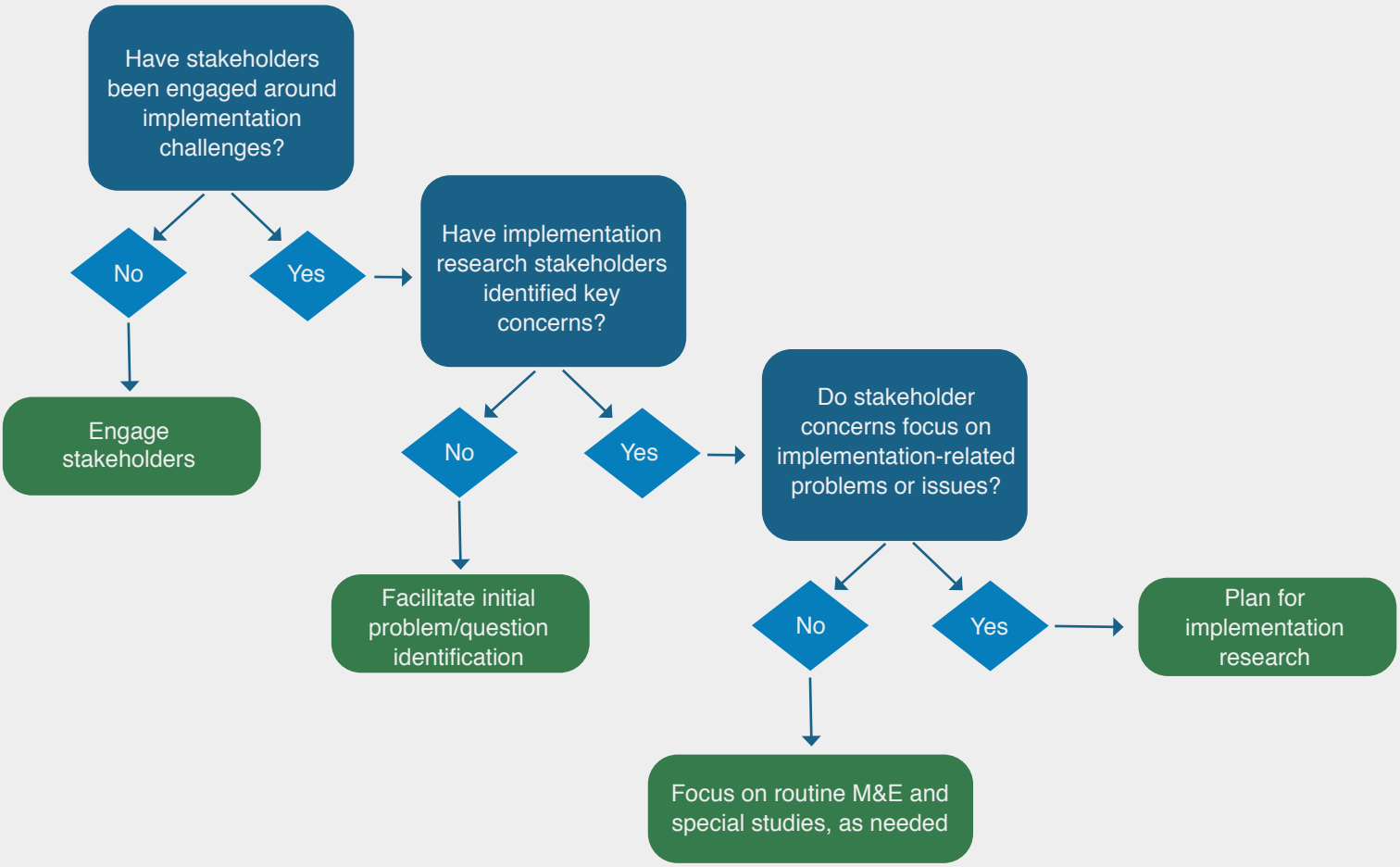

Setting the stage for productive co-creation and collaboration requires keen attention to fostering a collegial, non-hierarchical setting in which mistakes are viewed as an opportunity for learning rather than failure, which shall be referred to as "collaborative space" for the purposes of this note. This collaborative space is also critical to facilitate the full participation of marginalized groups.[14] Fostering a democratic, collaborative space is particularly important in light of the unequal levels of technical knowledge and social standing that various stakeholder groups may have in addition to the variety of beliefs, values, and cultural perspectives they may hold. It may be useful to consider how to foster openness among all participants, in a way that allows for differences of opinion and conflicts to emerge and to become productive points of learning. It may also be useful to think about the need to potentially renegotiate the parameters for the collaborative space over time, recognizing that changes in participants, leadership, or the results of the research itself may affect the interest and ability of stakeholders to participate as originally planned. Over time (and iterative cycles of research), the stakeholders involved may change along the learning process.

Stakeholders who are willing to engage in implementation research likely have some set of concerns or questions that they would like to see addressed as an intervention/reform is implemented. All stakeholder concerns should be shared in the collaborative space, and the group will develop and likely need to prioritize the research questions emerging from these discussions. Stakeholders will need to build consensus around the criteria for prioritization for each implementation research activity.[15]

However, not all concerns may be focused on implementation. Figure 6 below may be useful in helping determine whether implementation research is the best approach for addressing stakeholder concerns.

[13] Adapted from "IAP2 Spectrum for Public Participation," International Association for Public Participation (2018).
[14] For more information on creating effective collaborative spaces, see Jarg Bergold and Stefan Thomas, "Participatory Research Methods: A Methodological Approach in Motion [110 paragraphs]," Forum Qualitative Sozialforschung / Forum: Qualitative Social Research 13, no. 1 (2012) (http://nbn-resolving.de/urn:nbn:de:0114-fqs1201302 or https://www.qualitative-research.net/index.php/fqs/article/view/1801/3334); Stephanie Moulton and Jodi R. Sandfort, "Strategic Action Field Framework for Policy Implementation Research," Policy Studies Journal 45, no. 1 (2017): 144-169.
[15] If there is no clear basis for consensus, a logical approach would be to focus on the questions that are most critical to ensuring uptake and fidelity that will lead to improved educational outcomes.

**Figure 6. Engaging stakeholders in implementation research**




## 4.2 How might implementation research planning be integrated into implementation?

Planning for implementation research should be well integrated with planning for implementation at scale in four key ways: stakeholder engagement, timing, human resource needs, and resource levels. Implementation research will, in the short-term,[16] make an intervention/reform both more resource-intensive and more time-intensive. The following are some of the key considerations:

### Stakeholder engagement

An important first step to stakeholder engagement is often to conduct a stakeholder analysis to determine who should be engaged in setting the agenda for implementation research. (See Annex C.1 template for an initial assessment of stakeholder influence and interest in the intervention.) Implementers may have completed stakeholder analysis for existing interventions. These analyses may need to be updated or redone for expansion of an intervention/reform or adoption as an evidence-based practice to set expectations around continuous quality improvement, as well as for implementation research purposes. It is important to ensure that stakeholder groups are aware of and see the value of implementation research opportunities from the initial planning stages.[17] Early engagement can also help ensure that all stakeholders understand the critical milestones and decision-making points, building support for implementation research.

[16] Short-term may be a few months up to two years, depending on the scope and scale of the intervention and the research undertaken.
[17] Jeanne Century and Amy Cassata, "Implementation Research: Finding Common Ground on What, How, Why, Where, and Who [Chapter 6]," Review of Research in Education 40 (2016): 169–2 15. DOI:10.3102/0091732X16665332.

Beyond general engagement, one of the key decisions prior to undertaking implementation research is who will comprise the group guiding those research efforts. A recommended approach is to identify stakeholders with a vested interest in the outcomes of education interventions. Staff responsible for the intervention/reform are one critical group, as are external funders of an intervention/reform (if any), but many layers of stakeholders may also be taken into account, such as: regional and local government educational bodies, educators and educators unions, learners (and potential learners not currently in the formal education system), their caregivers, civil society organizations, and/or private sector.

## Timing

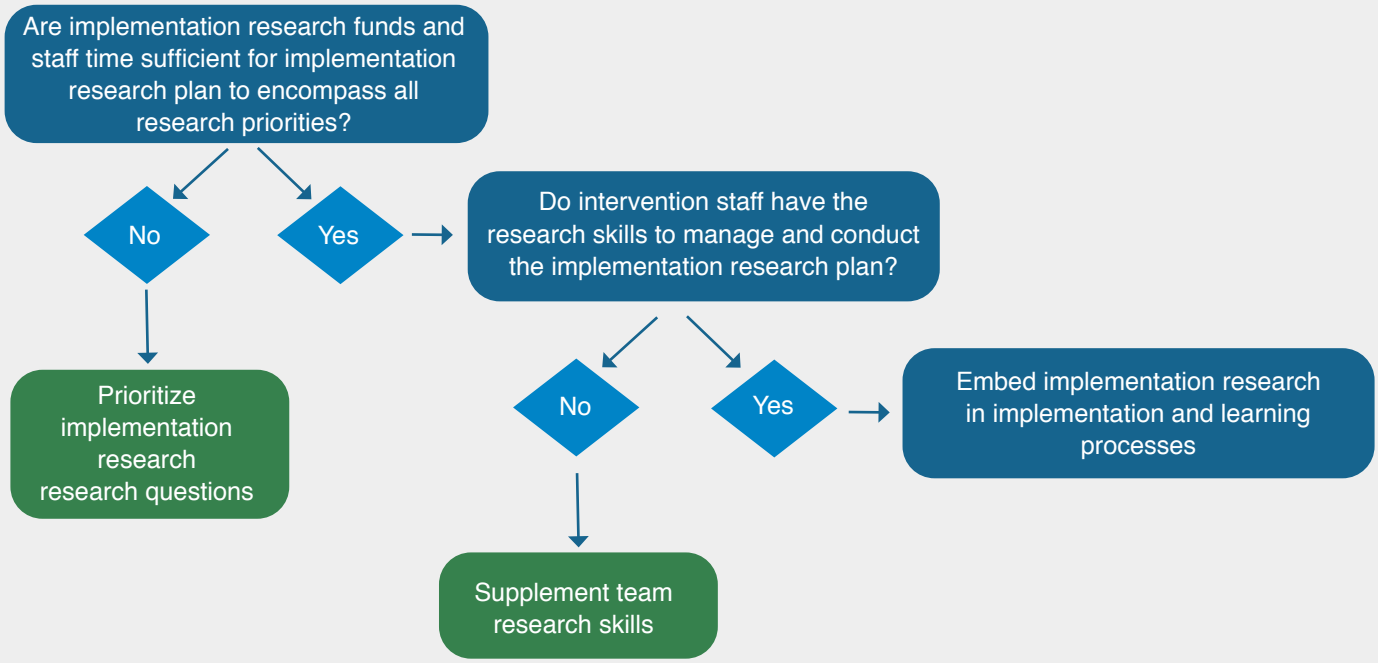
The planning process should identify milestones or decision points in the implementation process at which implementation research findings will be critical to have. The school calendar, funding cycles, participating stakeholders' established planning processes, or the work plan for the intervention/reform may drive these milestones. Implementation research may also require data collection at multiple points in time.[18] It is important to be realistic about the length of time and amount of staff time required for effective stakeholder engagement. Initial stakeholder engagement takes time and maintaining engagement over time requires ongoing care and attention to those partnerships. The implementation research work plan should account for these and allow sufficient time for analysis and reflection prior to those milestones. Finally, it may also take time to adapt an intervention/reform and disseminate that adaptation (through training, materials, or other means). Iterative cycles of intervention/reform adaptation and implementation research should account for these factors.

## Human resource needs

One key consideration for integrating implementation and implementation research is determining the appropriate mix of skills needed to achieve the intended goals. Assuming that an intervention/reform has an existing personnel structure, an initial step may be a capacity assessment within the implementation team to gain an understanding of who has the requisite knowledge and skills (taking into account both experience and training). Then it is important to determine to what extent to engage current personnel and what additional personnel might be needed - both internal and external. Planners should set out clear roles and responsibilities for existing and new staff that incorporate both intervention/reform, traditional M&E, and implementation research tasks. It is worth considering the M&E and implementation plan alongside each other to exploit potential complementarities related to data collection and analysis, e.g., using the same survey for both M&E and implementation research purposes. This will support the planning of resource needs. If the personnel plan includes engaging personnel across agencies or organizations or hiring outside experts, it is important to consider what data-sharing or non-disclosure agreements may also be needed.

[18] Jeanne Century and Amy Cassata, "Implementation Research: Finding Common Ground on What, How, Why, Where, and Who [Chapter 6]," Review of Research in Education 40 (2016): 169–215. DOI:10.3102/0091732X16665332.

**Figure 7. Resource and capacity considerations in implementation research design**




## Personnel

Once the design team has determined roles and responsibilities, it should allocate resources for personnel costs, which are often the largest proportion of an intervention's costs. The intervention/reform budget should allow sufficient time for intervention/reform staff and any outside experts needed to design or co-design the implementation research, conduct data collection, analyze the data, maintain stakeholder engagement throughout the process, and plan for adaptations in implementation based on the conclusions and recommendations of the stakeholder group. What constitutes 'sufficient' depends on the existing capacity within the team and the complexity of the research design.

### Consider the following parameters:

- Even with good capacity within the intervention/reform staff, additional research expertise may be needed at the design stage, at the beginning of implementation to establish the needed systems for data collection and management, and/or for data analysis and interpretation. Another consideration might be that external expertise can sometimes be useful in consensus building when various stakeholders have differing opinions about what constitutes evidence or how the study should be structured
- Technical staff will be the primary data collectors and interpreters. In addition to the time allocated for their normal duties, they will require time to engage with stakeholders, design and plan the implementation research, collect data (feedback from stakeholders, observations, etc.), document the data collected, analyze and interpret the data (with support from external research experts or potentially the M&E staff depending on capacity), facilitate or participate in reflection and learning sessions dedicated specifically to the implementation research, and develop adaptations in the intervention/reform based on the findings of the implementation research
- M&E staff will likely also be involved in the design and planning of the implementation research. They may support technical staff by structuring and/or maintaining data collection systems and databases into which the technical staff will enter the data they collect. In addition, they may assist the technical staff with data analysis and interpretation and will also likely participate in reflection and learning sessions
- Communications staff may be tasked with producing and disseminating materials specifically for the implementation research study in addition to their routine duties and will also likely participate in reflection and learning sessions.

**Tip:** Consider engaging an external researcher to interview technical staff as key informants if documentation proves to be challenging. Similarly, consider engaging an external facilitator for learning sessions so all personnel can participate fully without having responsibility for managing the sessions.

## Other costs

Beyond personnel costs, implementation research may require funds for certain direct costs including:

- Increased communications costs (graphic design, website development/maintenance, printing, mailing, etc.)
- Data collection and analysis costs beyond those required for routine monitoring and evaluation activities (software or software subscriptions, enumerator teams, devices for data collection or documentation, sim cards, SD cards, etc.) and
- Costs for ongoing learning sessions with stakeholders (venue, catering, transportation, etc.).

## 4.3 What factors should be considered in implementation research design to integrate into the ongoing intervention?

A design process, which should always be a co-design process, is going to involve a series of steps, and the planning and design of implementation research should leverage existing resources and activities as much as possible. A key consideration for implementation research is its rapid and iterative nature, taking into account a dynamic context and an evolving intervention/reform in response to local conditions and intentional adaptations.

### Documentation of the intervention

Prior to designing an implementation research effort, it is useful to clearly lay out the key features of the intervention/reform to establish key parameters to be considered in the research design. These include the following:

- Clearly defined core programming strategies
- Fidelity benchmarks or implementation outcomes (i.e., what constitutes evidence of positive or negative change) and expectations for core programming strategies
- Potential implementation challenges or risks within the intervention/reform delivery, the context, and stakeholder perspective and
- Key milestones for decision-making to which the implementation research findings should contribute.

### Development of the implementation research design

Similar to the M&E plan for an intervention, it is useful to create a document that describes the consensus reached on the research purpose, research questions, and implementation outcomes; research design; description of measures to be used; analysis plan; and a final work plan that aligns with the planned intervention/reform processes and critical milestones (as noted in Section 3.1). As with the M&E plan, this document should be shared with all stakeholders and serves as a record of the collaborative decision-making at the initial stage of the intervention. It could be a stand-alone document or an addendum or annex to the intervention's M&E plan. It may also be necessary to update the document over time to reflect changes in agreements among stakeholders or as part of the iteration process to reflect adaptations made because of the findings of each round of research. In addition to the elements of the research design discussed in Section 3.1, the implementation research stakeholders should use a participatory process to reach consensus on the following:

- **Development of agreed-upon measures for assessing implementation progress.** The measures may be qualitative and/or quantitative, depending on the questions to be answered and the resources available. (For illustrative measures that may be relevant, see **EPIS Measures**.[19] For more information on selecting robust quantitative measures, see **PAPERS**.[20]) This is critical to reduce any rationale or incentives that stakeholders may have to reinterpret results to their own advantage later. As part of the process of developing and selecting measures, it may be useful to review the regular indicators and other data (such as stakeholder feedback) included in the M&E plan to determine any overlap in measures, which would allow the research team to leverage the existing M&E processes and infrastructure
- **Plan for data collection and documentation.** Once the research designers have selected the measures, the implementer can identify areas of complementarity between the implementation research plan and the M&E plan. The implementer should compare the intended data collection methods and data sources (participants and sampling plan) to identify overlap with the M&E plan and determine if the implementer could consolidate data collection efforts to reduce or eliminate respondent fatigue and to contain costs. Where the M&E plan and the implementation research design both call for collecting data from the same participant group, the implementer may consider whether the team could use a single data collection instrument to meet both purposes.[21]

[19] "Measures and Tools for EPIS Constructs," EPIS Framework, 2022
[20] Cara C. Lewis, Kayne D. Mettert, Cameo F. Stanick, Heather M. Halko, Elspeth A. Nolen, Byron J. Powell, and Bryan J. Weiner, "The psychometric and pragmatic evidence rating scale (PAPERS) for measure development and evaluation," Implementation Research and Practice (2021): 1–6. DOI: 10.1177/26334895211037.
[21] Note that this may shift some of the burden for routine M&E data collection from the M&E staff to the technical staff.

**Tip:** Documentation is often the most challenging aspect of conducting implementation research. It is useful to work with those who will be responsible for collecting information to identify and select easy to use approaches to minimize data loss.

- **Leveraging of implementation processes or activities.** The routine activities that occur in the implementation process offer opportunities for data collection for an implementation research study. For example, routine visits to service delivery locations provide an opportunity to observe the intervention/reform in action and solicit feedback, which is a common data collection strategy for implementation research.[22] Using these types of opportunities to capture data can be useful in terms of obtaining data in real time and staying on budget
- **Data management and analysis.** In addition to leveraging planned M&E activities, the implementation research study may also be able to leverage the data management and analysis tools that the M&E staff will use for the intervention. Technical staff can use mobile devices that the M&E team uses to collect data in the field. The implementation research team and M&E team can also share software, both for data collection and data analysis. Finally, the implementer may find it advantageous to link the databases storing the implementation research study data and the intervention's M&E data. Over time, the findings from the implementation research may also influence the intervention's M&E practices.

## Triggers for data sharing agreements and non-disclosure agreements

The participatory nature of implementation research typically results in shared responsibility for collecting and managing data across organizations or stakeholder groups. The lead institution must ensure that any stakeholder that has access to implementation research data, particularly raw data that contains personally identifying information (PII), manages it in accordance with the study's ethical guidelines. Organizational data-sharing agreements and individual non-disclosure agreements are contractual mechanisms to ensure that data integrity and confidentiality in any participatory research activity, including implementation research.

**Tip:** Ensure that data-sharing agreements include co-authorship guidelines and the approval process and timelines for any public disclosure of implementation research data.

[22] Richard Grol and Roger Jones, "Twenty years of implementation research," Family Practice 17 (2000): S32–S35.

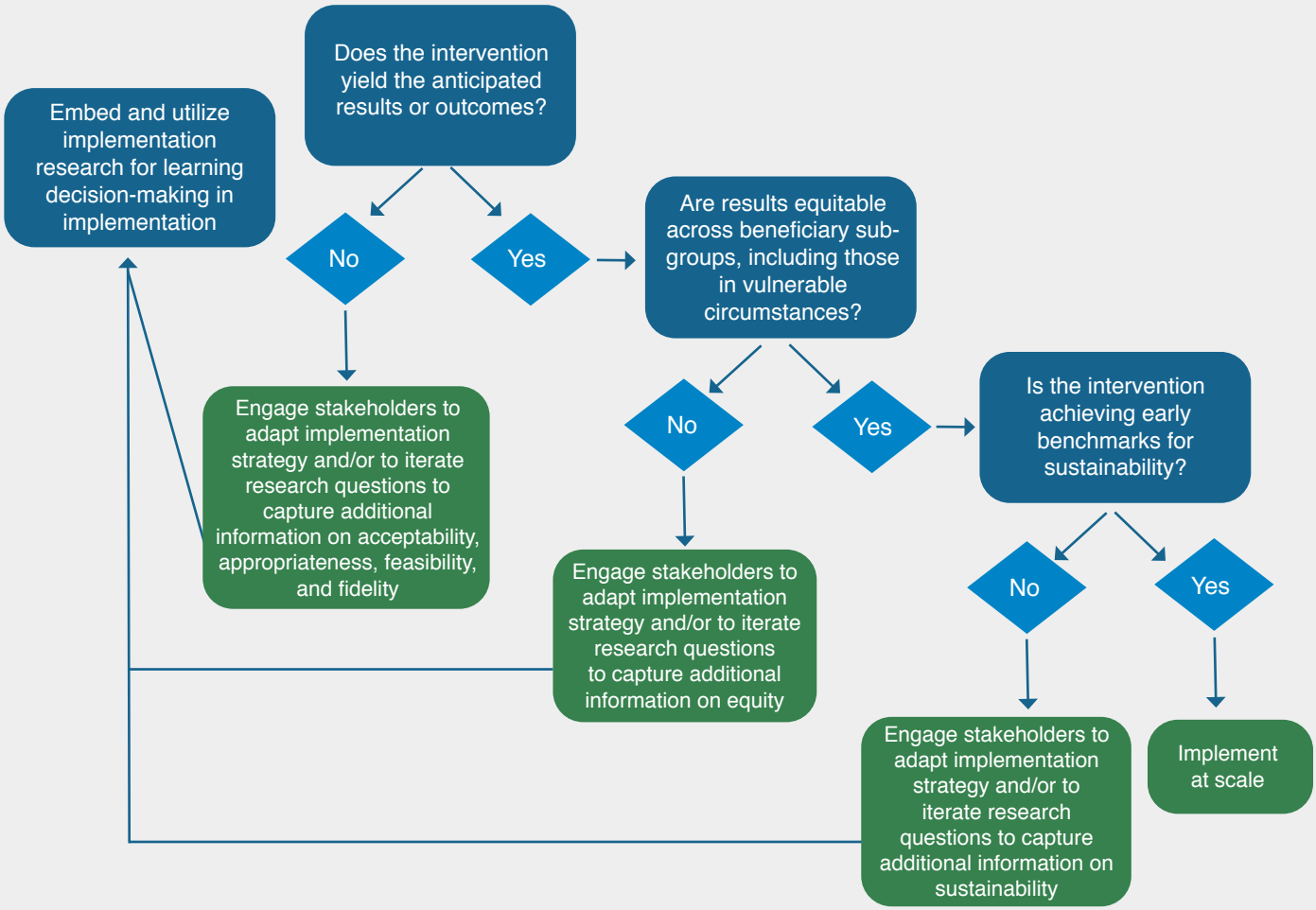
## 4.4 How should implementation research be conducted?

Much of the responsibility for conducting implementation research will remain with the implementer of the intervention. The technical staff who are responsible for implementation are also those who should be driving the implementation research. They usually serve as the primary data collectors responsible for obtaining and documenting information. M&E personnel or outside researchers may contribute and support, particularly with establishing easy-to-use systems for data collection, storage, and analysis, but they are generally not those primarily responsible for conducting the research. Additional stakeholders may be involved in planning and some data collection activities, depending on the research design and the extent to which they have the capacity to engage in research-related tasks.

## 4.5 How should implementation research support organizational learning and adaptive management?

Implementation research can only support improved service delivery when an intervention's implementers make use of the findings to improve the quality or reach of services rendered, as shown in Figure 8. This requires continuous information flows between system actors and commitment on the part of those responsible for service delivery to adapt based on the research results in real-time.

**Figure 8. Implementation research in organizational/project learning and adaptation processes**



Making use of the findings requires ongoing learning at an organizational or system level. The mix of stakeholders also widens again in the reflection and learning stages. Learning activities generally include those stakeholders who participated in the design of the research, but they may also engage other stakeholders who did not participate in design for one reason or another. It is therefore useful to consider the conditions that facilitate the uptake of implementation research.

### Scope for flexibility and adaptation

Effective implementation at scale requires flexibility in the management of the intervention, specifically to ensure that core programming approaches perform well in terms of acceptability, adoption, appropriateness, cost, feasibility, fidelity and sustainability.[23] The principle of a flexible and adaptive approach needs to be agreed upon by all relevant stakeholders from the start of (the scale up of) an intervention/reform. The flexibility to adapt the intervention however, should be informed by emerging evidence (disseminated to relevant stakeholders in real-time), stakeholder engagement and consensus around the need for adaptation in response to shifts in implementation outcomes.[24] Implementation research is then a critical tool to guide implementers in making effective adaptations to achieve the desired outcomes and in keeping stakeholders engaged over the medium- to long-term.

### Leadership and incentive structures

One of the key lessons learned from a wide range of studies of leadership in education is that effective uptake of research requires both strong leadership and an incentive structure that rewards learning. The research sponsors and implementers should create a vision for how the organization will generate and engage with the evidence in collaboration with stakeholders, which may also require working with and supporting staff to realize the vision and model the desired behavior.[25]

At the same time, the incentive system for personnel working on the intervention/reform should reward learning behaviors and not penalize them for a lack of success if they completed the expected tasks and activities per the plan and engaged in the learning and reflection process. An incentive structure that prioritizes short-term achievement of targets over long-term achievement of the intervention/reform goals runs the risk of discouraging the learning behaviors that implementation research studies seek to foster.

### Learning activities

Many interventions include provisions for learning activities, including analysis of feedback from stakeholders, sharing of lessons learned with partners, and planning for adaptation based on performance and feedback in prior periods. Learning activities also provide an opportunity to engage stakeholders (both those involved throughout and newly involved) in the interpretation of the data collected (e.g., through reflection or sense-making[26] exercises). This is particularly salient for implementation research in which it is critical to ensure stakeholders remain engaged throughout the process. Learning activities also represent an opportunity to develop a plan for the broader dissemination of the results of the study. (For more information, see the Research Technical Assistance Center **Research Translation Toolkit**.[27])

[23] Enola Proctor, Hiie Silmere, Ramesh Raghavan, Peter Hovmand, Greg Aarons, Alicia Bunger, Richard Griffey, and Melissa Hensley, "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda, "Administration and Policy in Mental Health 38 (2011): 65–76. DOI 10.1007/s10488-010-0319-7.
[24] Jeanne Century and Amy Cassata, "Implementation Research: Finding Common Ground on What, How, Why, Where, and Who [Chapter 6]," Review of Research in Education 40 (2016): 169–215. DOI 10.3102/0091732X16665332.
[25] Bianca Albers and Loyal Pattuwage, Implementation in Education: Findings from a Scoping Review (Melbourne: Evidence for Learning, 2017).
[26] Jeanne Century and Amy Cassata, "Implementation Research: Finding Common Ground on What, How, Why, Where, and Who [Chapter 6]," Review of Research in Education 40 (2016): 169–215. DOI:10.3102/0091732X16665332.
[27] NORC at the University of Chicago, Research Translation Toolkit (Washington, DC: USAID Research Technical Assistance Center, 2022).

Implementation research may complement and leverage routine learning activities,[28] but a critical component of implementation research effort is building in opportunities to pause and reflect with relevant stakeholders. This may require increased frequency of those reflection activities and greater transparency and inclusion in the learning activities than for M&E alone.[29]

**Iteration of implementation research**

As stakeholders determine the initial research purpose and develop research questions, it may be clear from the outset that multiple rounds of research will be required to address the questions. In addition, the reflection and learning process may generate new research questions to be answered in further rounds of research. These new questions should be added to any earlier unanswered questions for further prioritization and consideration as part of a continuous quality improvement approach. It is also useful to note that the stakeholders involved in designing further rounds of research may change.

Photo credit: Anna Roberts, USAID

[28] Adapted from Jeanne Century and Amy Cassata, "Implementation Research: Finding Common Ground on What, How, Why, Where, and Who [Chapter 6]," Review of Research in Education 40 (2016): 169–215. DOI:10.3102/0091732X16665332.
[29] Social Solutions International, 10 Tips on Implementation Research for Decision Makers in Low-and Middle-Income Countries(Washington, DC: USAID, n.d.).

Case study

## Scaling effective teaching practices for early grade reading in South Africa

South Africa's National Department of Basic Education (DBE) Directorate for Research Coordination, Monitoring and Evaluation (RCME) has conducted a series of implementation research studies to strengthen the understanding of stakeholders across the sector of optimal approaches to delivering effective early grade reading instruction.

Through a series of randomized control trials (RCTs) over almost 10 years in selected provinces and schools (schools serving children in the lower three socioeconomic quintiles that were also predominantly mono-linguistic, mono-grade settings), the Directorate engaged external service providers to deliver quarterly in-service teacher training and ongoing support (including monthly coaching and delivery of approved learning and teaching support materials) to teachers in grades 1-3. Based on follow-up data collected four years after the initial student cohorts received the intervention, the results of the intervention were sustained – the intervention cohorts scored significantly higher than the control cohorts on reading skills assessments.

DBE staff led the design of both the interventions and the implementation research with the input of national experts from academia. Through a competitive bidding process, DBE selected non-profit service providers to deliver the in-service training and ongoing support to teachers. DBE assigned a full-time person to monitor the service providers. Using a similar process on the research activities, DBE selected partners for data collection, but the analysis was completed by RCME staff.

One of the most important elements of the implementation research activity was sustained stakeholder engagement. DBE positioned one of the RCTs as a Cabinet-approved process, which made it highly visible and fostered a strong degree of accountability within the relevant DBE, provincial, and district offices. The engagement strategies had to incorporate provincial and district education officials, school principals and teachers, teacher unions, education faculties, DBE leadership, and civil society (representing the interests of parents and communities). One of the key principles by which the implementation research team was openness with the data. DBE always sponsored public launches of the results reports at key milestones, inviting provincial and district personnel, education faculties, international donors, and Non-Governmental Organizations (NGOs) to participate.

DBE established a reference group in the initial stages of the RCT comprised of subject advisors who routinely visit schools and observe teaching. The intervention and implementation research activities were effectively intruding into their purview, and this group was therefore a critical one to engage. After some initial difficulties, DBE and the reference group members held quarterly working sessions in which they conducted page-by-page reviews of lesson plans for the following term. The subject advisors provided helpful guidance on how teachers in their schools adapted and delivered some of the content, allowing the service providers to make refinements in the materials to be distributed for classroom use. This process both improved the relevance of the materials and enabled the subject advisors to effectively support teachers when they visited schools, supplementing the monthly coaching the teachers received through the intervention.

To be as efficient and effective as possible, DBE also focused on leveraged existing forums to engage stakeholders. The research team routinely apprised DBE leadership of new developments in weekly all-branch leadership meetings. Quarterly Teacher Development and Curriculum Management (TDCM) committee meetings enabled DBE to engage all provincial representatives and teacher unions. Over time, this forum was particularly fruitful, as many stakeholders in this forum became effective champions for the most effective approach and worked to determine how it could be implemented at scale in their provinces.

DBE also collaborated with provinces and districts to hold annual school principal advocacy meetings. In these one-day programs, DBE presented the implementation research findings available at that time, which fostered candid discussions about how resources and teachers were allocated. They also stimulated conversations about sustainability beyond the RCT and how they could engage with the service provider directly, if they were interested in doing so.

## Case study continued

DBE also engaged education faculties, through the Education Deans' Forum of Universities South Africa and through local conferences, with a long-term focus on integrating these approaches into preservice training rather than in-service training. Several universities have fully adopted these approaches, and some it is has been in response to this kind of engagement.

Ultimately, change at scale requires time, and these early grade reading approaches are not yet fully institutionalized at scale. The latest iteration of the education sector plan maps out lessons learned from DBE's implementation research and highlights reading instruction as an area for innovation. The National Education Collaborative Trust has adopted many elements of the approach RCME piloted. Several provinces have initiated their own research, and private schools in some provinces are taking up the approach. Full institutionalization, however, including approved teaching and learning materials packages available through the Learning and Teaching Support Materials National Catalogue, will require additional time.

Credit:

Case study submitted by the Directorate for Research Coordination, Monitoring and Evaluation of the National Department of Basic Education of South Africa and edited by the author of this document.

Case study

## Implementation research in early grade reading in the Democratic Republic of Congo

USAID's ACCELERE! Activity (A!1) supported the Ministry of Education to improve teaching and learning in targeted classrooms by conducting teacher and administrator training in early-grade reading methods. A!1 developed, tested, and distributed teaching and learning materials (TLMs) for Grades 1 to 4, accelerated learning center Levels 1 and 2, and basic and functional literacy programs through vocational training centers in Kiswahili and French.

Overall, A!1 distributed almost three million TLMs to almost 5,000 schools. A!1 also distributed over 300,000 student and teacher kits as well as supplies like desks, benches, and wash basins. When A!1 shared the validated TLMs for Grades 1 to 3 in Ciluba, Kiswahili, and Lingala with the Ministry of Education, the ministry made them available for others to continue to scale up and distribute. The Global Partnership for Education-funded Projet d'Amélioration de la Qualité de l'Éducation project subsequently printed and distributed nearly 10 million additional teacher guides and student manuals, meeting a significant need for quality early-grade reading materials. A!1 operated between 2015 and 2021 in 5,000 schools in nine provinces, reaching 3.6 million students. A!1 increased early-grade reading scores in all four instruction languages and, in some cases, closed the gender gap. Implementation research was first planned as part of the project's operations research agenda, set out at the beginning of the project. A key component of this agenda was fidelity of implementation (FOI) research, which began at the classroom level (i.e., FOI of teacher practice per what the reform planned) and then expanded to project-level FOI research. The A!1 team developed four key research questions:

- Which essential components are associated with strong reading performance?
- Which specific activities are associated with strong reading performance?
- Which specific activities are associated with result-level outcomes?
- Which result-level outcomes are associated with strong reading performance?

One key element of the data analysis approach was sense-making sessions with stakeholders to ground the interpretation of the data in local realities and day-to-day school operations. This was critical in identifying modifications to intervention elements, including teacher training modality plans and materials, TLMs, back-to-school campaigns, and supply chain management. Another critical element in A!1's data analysis approach was linking sample sets and other data. Using the same sample helped the project identify correlations between fidelity of implementation and reading performance, making it possible to test the theory of change.

The research results confirmed the correlations between essential intervention components and desired outcomes, as well as between specific intervention activities and desired outcomes. The classroom-level FOI data-informed revisions to the TLMs (particularly around writing and student assessment). The project-level FOI research helped improve project implementation and target resources and efforts, including an increase in support to provincial teams, improved delivery and implementation timing, and refinement of internal procedures for TLM supply chain management.

## Case study continuted

Regular collaborating, learning, and adaptation (CLA) sessions, including formalized quarterly sessions later in the project, were the key opportunities for feeding in FOI research and other implementation scans, with adaption action plans emerging from these sessions. Using implementation research allowed the implementer to monitor progress (grounded in the project's theory of change) and identify barriers and solutions. Establishing the theory of change from the beginning of the project and then fine-tuning it continuously through the FOI research and CLA process provided focus and cohesion among implementation teams.

Credit:

Case study submitted by Chemonics International and edited by the author of this document.

Case study

## Using implementation evidence to strengthen a social norms change platform

The Somali Girls' Education Promotion Programme – Transition (SOMGEP-T, 2017-2022), funded by FCDO's Girls' Education Challenge and USAID and implemented by CARE, sought to improve learning outcomes and positive transitions for marginalized girls living in remote and rural areas of Northern-Central Somalia.

SOMGEP-T included interventions at the system, school, community, and individual girl levels to develop girls' agency, build supportive relationships, facilitate social norms change, improve teaching quality, and make school environments more inclusive and gender-responsive.

SOMGEP-T used the implementation evidence generated by its Fidelity of Implementation (FOI) system to strengthen one of its components, Girls' Empowerment Forums (GEFs), which focused on developing girls' agency and building supportive networks for marginalized girls. GEFs consist of school-based girls' groups formed by about 10 girls under the guidance of an adult female mentor, with support from the Community Education Committee and school management. SOMGEP-T co-designed the GEF approach with state-level Ministries of Education (MoEs) in Somaliland, Puntland, and Galmudug and trained the Ministries' Gender Focal Points to deliver training to mentors and provided ongoing coaching to them at the school level. GEF members participated in activities to develop leadership skills, learn about gender and child rights and sexual and reproductive health, and connect them with role models and resource persons. Members also received psychosocial first aid from mentors on a need basis. In addition, participant girls developed action plans to address key issues of their choice, engaging in activities to address those at the school and/or community level. Over time, GEF members conducted sensitization campaigns about girls' education; followed up on cases of drop-out and absenteeism; set up study groups and served as mentors to other girls; worked jointly to prevent early marriage cases; implemented school improvement projects, etc.

Considering the diversity of support systems, resources, and capacity across the project areas, which include remote locations located in disputed borders and severely affected by conflict and drought, the FOI approach was critical to enable the project to identify gaps and develop site-specific plans to respond to issues. For example, during its first year of implementation, the FOI assessment revealed that 60% of the GEF clubs were not fully functional due to mentor capacity gaps and limited oversight from the school management and Community Education Committee. In addition, the FOI subgroup analysis pointed out that issues were more prominent in one of the three areas where the project was implemented. In response to the findings, the project developed several adaptations, including:

- Deployment of additional female staff
- Identifying and training at least two mentors per location
- Providing intensive tailored coaching and mentoring with the support of MoEs Gender Focal Points (GFP), and female mentors while specifically targeting topics with which girls were struggling
- Supporting GEF members in organizing and participating in girl-led activities to foster leadership and life skills
- Investing in building school management capacity and knowledge of the GEFs, enabling better oversight and
- Provision of relevant reading materials to GEFs.

## Case study continued

By the end of year three, the proportion of functional GEFs had increased to 92%, compared to 40% in year one. In addition to measuring GEF functionality, the project FOI approach assessed GEF performance through the uptake of the GEF activities led by girls in their schools or communities. An analysis of the activities led by GEF members showed marked improvements in the proportion of GEFs leading various activities at the school and community levels. At the end of year three, 81% of the GEFs met FOI minimum standards, compared to 68.6% at the end of year two. The results reflect a comprehensive, agile approach's importance in generating and using implementation evidence.

Credit:

Case study submitted by Foreign, Commonwealth & Development Office (FCDO) and edited by the author of this document.

# Annexes

# Annex A.1. Definitions of implementation research

| Definition of implementation research | Source |
|---|---|
| The scientific inquiry into questions concerning implementation - the act of carrying an intention into effect, which in health research can be policies, programs, or individual practices, (collectively called interventions). | Peters et al (2013) Implementation Research: What it is and how to do it. |
| The scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services. It includes the study of influences on healthcare professionals and organizational behavior. | Eccles & Mittman (2006) Welcome to Implementation Science |
| Examination of what works, for whom, under what contextual circumstances, and whether interventions are scalable in equitable ways. | Edwards & Barker (2014) The Importance of Context in Implementation Research |
| Systematic inquiry regarding innovations enacted in controlled settings or in ordinary practice, the factors that influence innovation enactment, and the relationships between innovations, influential factors, and outcomes. | Century & Cassata (2016) Implementation Research: Finding Common Ground on What, How, Why, Where, and Who (ch 6) |
| Studying the translation of evidence-based practices into routine service delivery through the use of implementation strategies. | Cook et al. (2019) Adapting a Compilation of Implementation Strategies to Advance School-Based Implementation Research and Practice |
| Research that features:<br>(1) A focus on persistent problems of practice in education systems from multiple stakeholders' perspectives (e.g. students, teachers, parents, leaders or instructional aides).<br>(2) A commitment to iterative and collaborative design of programs or change interventions, to achieve desired outcomes.<br>(3) A concern with developing theory, knowledge and practice-based expertise related to both program implementation (processes) and classroom learning (outcomes) through systematic inquiry.<br>(4) A concern with developing organizational capacity for sustaining change improvements in systems. | LaMahieu et al. (2017) Design-based implementation research |
| Engaging "learning scientists, policy researchers, and practitioners in a model of collaborative, iterative, and systematic research and development" designed to address persistent problems of teaching and learning. | Russell et al (2013) Theories and Research Methodologies for Design-Based Implementation Research: Examples From Four Cases |

| Definition of implementation research | Source |
|---|---|
| The integration of research within existing program implementation and policymaking to improve outcomes and overcome implementation bottlenecks. | UNICEF |
| Scientific inquiry into questions concerning implementation. | USAID (ND) Implementation Research Overview Working Document |
| A systematic approach to understanding problems related to program implementation, then identifying and testing possible solutions in an adaptive or iterative process. In implementation research, we study how to ensure interventions are successful by understanding and mitigating implementation challenges. | USAID (ND) 10 Tips on Implementation Research for Decision Makers in Low- and Middle-Income Countries |
| The scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice [by developing and evaluating practical solutions to common, critical problems in the implementation of these interventions] and, hence, to improve the quality and effectiveness of health services and care. | USAID et al (2012) Fundamentals of Implementation Research |
| The scientific study of the processes used in the implementation of initiatives as well as the contextual factors that affect these processes. It can address or explore any aspect of implementation, including the factors affecting implementation (such as poverty, geographical remoteness, or traditional beliefs), the processes of implementation themselves and the outcomes, or end-products of the implementation under study. | WHO (2013) Implementation Research in Health: A Practical Guide |

# Annex B.1. Research design planning template

| | |
|---|---|
| What do we need to know? (Research question) | |
| Why do we need to know this? How will the findings be used? (Research purpose and goals, linking to implementation framework) | |
| What is the timeframe by which we need to know this? (Key adaptation dates) | |
| Where/with whom does this information reside? (Participants) | |
| What kind of data will answer the question? (Methods) | |
| How will we analyze the data? (Analysis) | |
| What limitations or threats to validity might we anticipate? | |
| How can we mitigate those limitations or threats to validity? | |

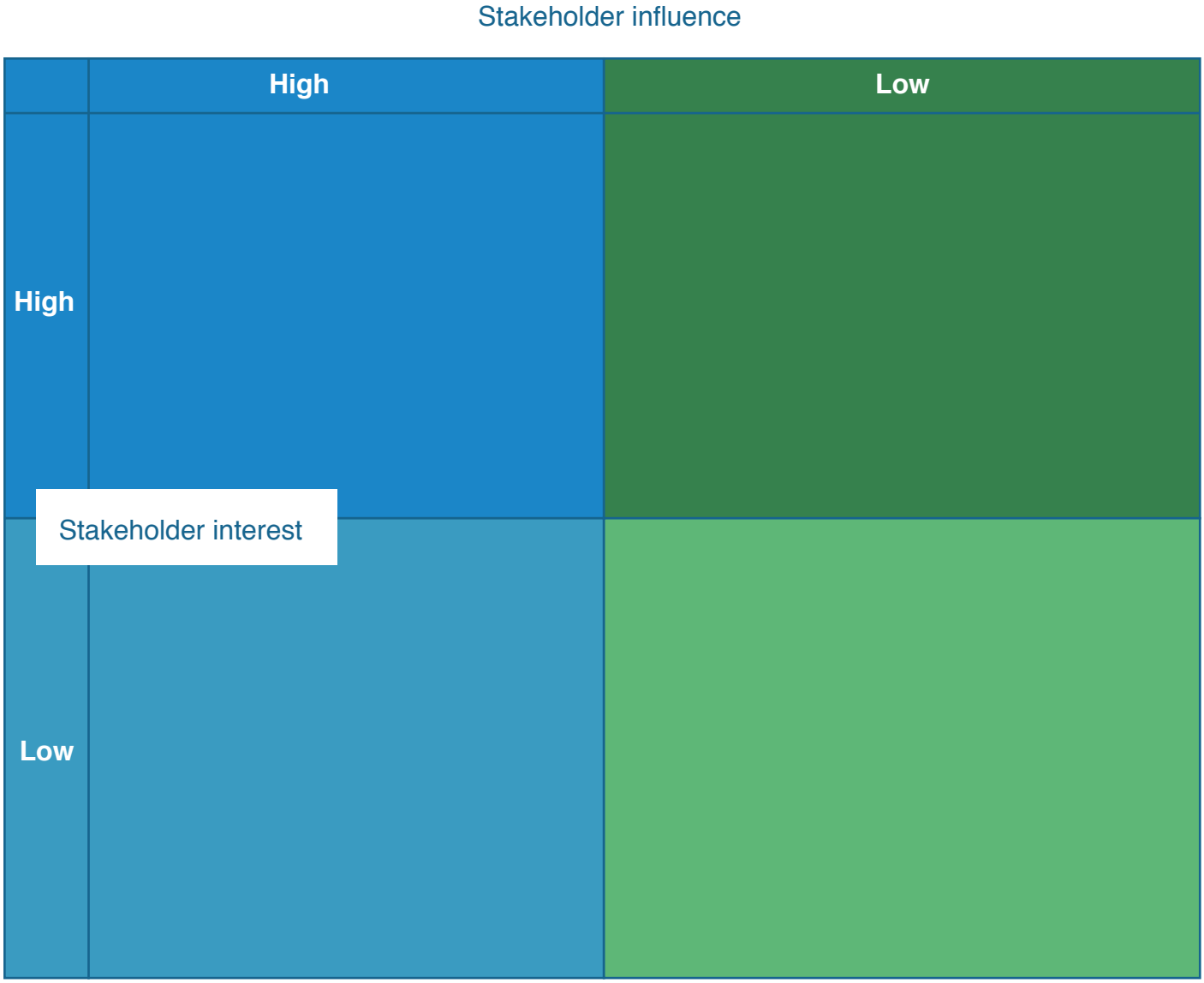
Adapted from Maxwell, J.A. (2013). Qualitative Research Design An Interactive Approach, 3rd Edition. Los Angeles: Sage Publications, Inc.

## Annex B.2. Data analysis map

| Research Question (RQ) | Research Question 1 | Research Question 2 | Research Question 3 | Research Question 4 |
|---|---|---|---|---|
| Data collection instrument 1 | | | | |
| Data collection instrument 2 | | | | |
| Data collection instrument 3 | | | | |
| Data collection instrument 4 | | | | |
| Data collection instrument 5 | | | | |
| Data collection instrument 6 | | | | |
| Data collection instrument 7 | | | | |

**Instructions:** List each research question in the first column. Enter a data collection instrument into the header row for all other columns. Map the specific questions from each instrument to the research question they will answer. Identify any gaps and develop additional questions to ensure data collected can respond to each research question.

## Annex C.1. Stakeholder influence and interest




For additional tools, see USAID's Learning Lab resources:

- **Engaging Stakeholders Toolkit**
- **Evaluation Stakeholder Participation Planning Matrix**

## Annex C.2. Stakeholder communication plan

| Stakeholder | Role/ engagement profile | Means of communication | Content needed | Timing/ frequency | Person/s responsible |
|---|---|---|---|---|---|
| Intervention staff and partners | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Government agencies | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Teachers and teachers union | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Community organizations and local leaders | | | | | |
| | | | | | |
| | | | | | |
| Community members (students/parents) | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Donor(s) | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Other stakeholders | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

# Annex D.1. How do private funders fund implementation research?

## How do private funders fund implementation research?

1. **Establish a learning agenda**. Most funders value both innovation and evidence-based practice to maximize the impact of their efforts. Implementation research is relevant to advance innovations to become evidence-based practice, making it a useful tool to support an organization's learning agenda.

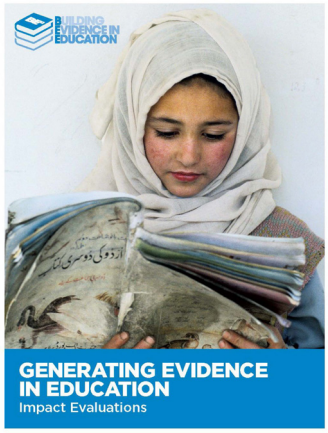
2. **Set aside a budget for learning and research separate from routine implementation and M&E costs.** Whether government or external donor, funders have their own budget cycles and procedures. There is often tension or debate around the opportunity cost of conducting research (in lieu of serving more beneficiaries, for example), and a learning agenda is therefore a critical first step, as it may serve as the rationale for setting aside funds for implementation research. Once allocated, this budget can be awarded through regular budgeting processes or a grant application process.

3. **Estimate the budget needed for implementation research for a specific intervention/reform.** Many variables go into budgeting for a specific implementation research activity. As it should be a participatory process, some of the variables may be unknown at the planning stages. Assumptions should be clearly identified in budgeting, and where feasible, some flexibility across budget categories and in terms of overall costs may be desirable.

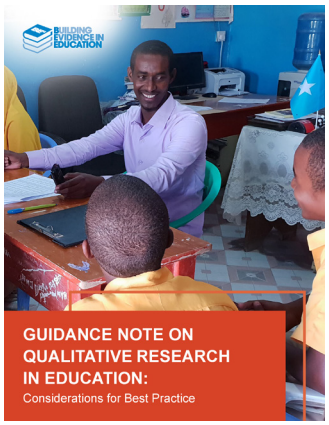
4. **Identify expected deliverables for the implementation research activity.** Deliverables should include clear evidence of collaboration and organizational learning linked to key implementation markers.

5. **Allocate/award the implementation research budget along with the intervention budget.** The implementation research will be conducted alongside the implementation effort, and the budget therefore should be managed by the implementing organization but reported on separately from the implementation budget.

## Other BE² guidance notes:









[Generating Evidence in the Education Sector]

[Guidance Note on Qualitative Research in Education]

[Cost Measurement Guidance Note]

[Assessing the Strength of Evidence in the Education Sector]

Photo credit throughout guidance note: iStock, unless otherwise stated.

BUILDING EVIDENCE IN EDUCATION