Measurement and Evaluation Checklist

As the evaluation technical assistance partner for two portfolios of investments in Middle Years Math and Secondary Writing—funded by the Bill & Melinda Gates Foundation—Mathematica developed a set of tools to support grantees through a measurement and evaluation (M&E) process. The goal of these portfolios is to develop, refine, and scale evidence-based solutions (programs, products, or practices) that demonstrate success in improving educational outcomes for students who are Black, Latino, and/or experiencing poverty (the priority communities for the grants).

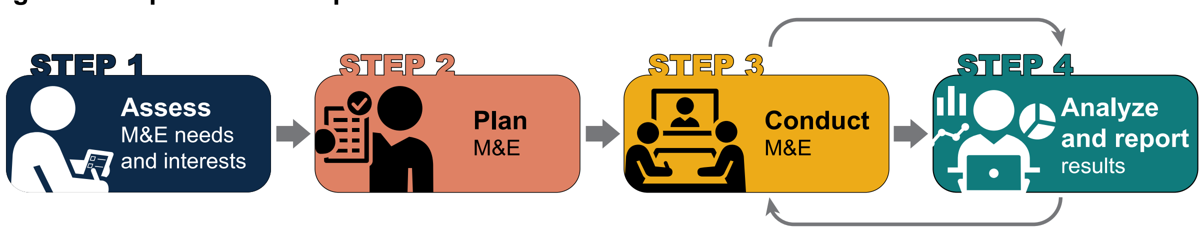
To expand the reach of this work and promote the adoption of evidence-based solutions more broadly, Mathematica has adapted the suite of M&E tools for a broader set of users—organizations implementing solutions, funders, research partners, and other stakeholders. The tools are designed to help users implement the M&E process in their own work. Organizations or individuals may choose to use one tool or the full set and can adapt the tools to their needs.

What is the M&E process?

The M&E process is designed to promote rapid innovation and scaling of promising solutions through generating timely and actionable evidence about what works for whom, and in what context. It uses an iterative approach to evidence building, in which the focus and design of the research is aligned to the solution's phase of development. Checkpoints are built in throughout to encourage users to pause and reflect on what has been learned so far and to refine the solution and the M&E plan as needed. More information on this iterative approach to evidence building and the phases of development is available **here**.

In each evidence-building phase, the M&E process has four key steps (Figure 1). In Step 1, organizations articulate their M&E goals, interests, and needs. In Step 2, they develop a plan—including research questions—to guide the M&E work. In Step 3, they execute the M&E plan designed in Step 3, including collecting the data needed to address each research question. Finally, in Step 4, organizations analyze the data they collected in Step 3, determine next steps, and report the findings.

Figure 1. Steps in the M&E process



The M&E process centers on equity and community voice as a core principle. Across all steps, organizations are encouraged to meaningfully engage community stakeholders to ensure the solution builds on the strengths and assets and meets the needs of the community it is intended to serve.

Who should use the Measurement and Evaluation Checklist?

Funders and organizations, with support from a research partner, can use or adapt the checklist.

What is the Measurement and Evaluation Checklist?

The M&E Checklist is a resource that guides users through an evidence-building process as they design, refine, and test a solution in collaboration with stakeholders from the priority community. The M&E Checklist includes four documents—one for each of the evidence-building phases: Design the Solution (Phase 1), Refine the Solution (Phase 2), Assess for Early Evidence of Success (Phase 3), and Validate Effectiveness (Phase 4). The checklist activities focus on iterative learning, which may mean completing a phase multiple times, moving backwards to a previous phase, or abandoning a solution altogether. The checklist serves several purposes:

- ✓ **Design and evaluation planning.** Organizations designing and implementing solutions can use the M&E Checklist with support from a research partner during Step 2, Plan M&E, as a guide to develop a detailed M&E Plan—or road map—to address key research questions for a given phase of the solution's development.
- ✓ **Reporting.** Organizations—and funders, where relevant—can also use the M&E Checklist during Step 4, Analyze and Report Results, to assess the extent to which the plan was executed as intended and the extent to which the targets for a given phase of the development were met (as reported in the M&E Reporting Template).
- ✓ **Organizational or grantee alignment.** The M&E Checklist can also be used to align goals and objectives for the M&E work across an organization and its funder, when applicable. For funders working with multiple organizations, the M&E Checklist also promotes continuity across M&E Plans, allowing for streamlined review, improved understanding, and cross-solution comparisons.

In each phase, the checklist includes the following:

- **Key assumptions.** The activities organizations should have completed or targets they should have achieved before entering the current phase. If your organization did not complete the activities described in the key assumptions, consider starting at an earlier phase.
- **Reflection questions.** The questions that organizations can ask themselves to help them revisit their assumptions, center equity in their work, and plan next steps.
- **Principles.** Focus areas that guide the work across all phases. The principles include equity and community voice, program articulation, implementation, outcomes, scalability, and knowledge sharing.
- **Planning and execution activities.** The activities organizations should plan for and then complete before exiting the phase. Although organizations may plan for and execute *some* activities within a phase at first, all activities should be completed before exiting the phase.
- **Checkpoints.** Prompts for organizations to pause and reflect on learnings to-date to inform improvements to the solution design and updates to the M&E Plan. At each checkpoint, organizations can review the findings to determine whether to advance to the next phase, continue iterating in the same phase, or return to an earlier phase.

Phase 2: Refine the Solution

The goal of Phase 2 is to refine the solution based on lessons learned during implementation, with the goal of developing descriptive evidence that the refined solution was successfully implemented in the priority community.

Before entering Phase 2, organizations should have partnered with a defined priority community to design a solution and develop a theory of change. During Phase 2, organizations and stakeholders from the priority community work together to implement the solution for the first time in a priority community and refine the solution design based on feedback and lessons learned during implementation. By the end of Phase 2, the solution should be successfully implemented in the priority community, with the theory of change updated to reflect improvements made to the solution. It is common to repeat Phase 2 multiple times before moving on to Phase 3. Organizations that are implementing the solution for the first time with a priority community that was not involved in the solution design should prioritize establishing a partnership with the priority community and understanding the implementation context before beginning the activities in this phase (see Phase 1).

Key Assumptions. Before beginning activities in Phase 2, organizations should have completed the following activities in partnership with the priority community[1] (Please see Phase 1 activities for more guidance):

- ✓ Unpacked the identified problem and designed a solution that is specific to the implementation context
- ✓ Developed a well-defined theory of change (specific to the implementation context) that includes outputs and outcomes meaningful to the priority community

[1] We recommend that organizations enter at Phase 2 if this is the first time implementing the solution in a priority community.

As a fictitious illustrative example, before entering Phase 2, an organization and priority community might have created the following solution:

- A mobile application for students that builds on city tracking data to alert students of transit delays to avoid long wait times at bus stops, with the long-term goal of addressing chronic absenteeism

Equity and community voice activities are central to the evidence-building process and are integrated throughout this checklist.

When organizations partner with communities and include the voices and interests of the community in designing the solution and planning and executing the evaluation, both the solution and the evaluation will be more relevant and meaningful to the priority community and are more likely to be successful. Activities associated with equity and community voice focus on identifying stakeholders from the priority community who will collaborate and partner with your organization to plan and execute all activities in each phase. Stakeholders can also help organizations identify the best ways to engage and learn from the priority community in each phase.

All boxes in the M&E Checklist are clickable. Before beginning your activities, please check the “planning” or “execution” box to denote whether you are in the planning or execution stage.

How are you planning to use this checklist?

Select one:

☐ **Planning.** Make a plan for how you will complete these activities.

☐ **Execution.** Confirm that the activities were completed.

☐ Planning ☐ Execution

Principle: Equity and Community Voice

Solutions are designed, improved, and tested in collaboration with stakeholders from the priority community.

Planning and execution activities

Organizations should plan for and complete the following tasks in Phase 2.

- ☐ Clearly and narrowly define the priority community in which implementation will occur and specify the solution users.
- ☐ Identify stakeholders in the priority community and partner with them to develop the implementation plan and execute checklist activities, including interpreting findings.
- ☐ Define and share the purpose of the implementation study with additional members of the priority community before the study begins.
- ☐ Describe how you plan to collaborate and partner with stakeholders in the priority community to incorporate their perspectives throughout evaluation planning and execution to design, refine, and test the solution.

Notes

Reflection questions

1. Who will represent the priority community? For example, is there a community liaison who understands the cultural context and can help navigate and communicate the design and evaluation process for the priority community? Can a stakeholder group from the priority community be established?
2. What strategies will you use to partner with and engage the priority community as early as possible and throughout the evaluation planning and execution in ways that authentically include their perspectives but are not overly burdensome to stakeholders? How will you build trust and get their buy-in?
3. How much time will be required of stakeholders throughout planning and execution? How will you compensate them for their time?
4. Do you have experience working with or learning from the priority community? If not, how can you engage someone who has?
5. How will you address disagreement between stakeholders? Whose voice will be prioritized if there is disagreement between you and the priority community? Whose voice will not be prioritized?
6. How will you demonstrate that you collaborated and partnered with stakeholders and incorporated their perspectives throughout this process?

Checkpoint

Organizations should routinely pause and reflect on the perspectives of the priority community and ensure evaluation activities and solution improvements align with those perspectives. Review the Culturally Responsive Evaluation Resource Guide for additional resources and guidance on how to engage stakeholders throughout solution design, refinement, and testing.

☐ Planning ☐ Execution

Principle: Program Articulation

Solutions are well-articulated and continuously refined.

Planning and execution activities	Notes
☐ Describe how you considered (or did not consider) the community assets, strengths, and needs of the priority community while designing the solution. ☐ Iteratively refine the solution's activities and strategies, outputs, and outcomes based on implementation and outcome findings, and update the theory of change to reflect these changes. ☐ Describe how you refined the solution based on implementation findings.	

Organizations and research partners should collaborate and partner with stakeholders from the priority community to plan and execute all activities.

Reflection questions

1. If the solution was not designed with or for the priority community, who designed it and who was it designed for? Who was the solution not designed for? How do you know the solution is a good fit and relevant for the priority community?
2. If the solution was not designed with or for the priority community, how will you adapt the solution to account for the priority community's assets, strengths and needs, and implementation context? When and how will you engage the priority community to ensure lived experiences inform improvements to the solution?

Checkpoint

Organization refines the solution's theory of change based on implementation learnings before proceeding to Phase 3.

☐ Planning ☐ Execution

Principle: **Implementation**

Solutions account for implementation context and are successfully implemented in the priority community.

Planning and execution activities	Notes
☐ Engage solution users and stakeholders to understand if the solution is usable, useful, or utilized and why (or why not). Review the "3Us – Usability, Usefulness, Utilization" document for more information, including establishing measurable implementation thresholds.	
☐ Meet or exceed "good" targets for implementation if using quantitative measures.	
☐ Describe how process targets for qualitative measures informed solution improvement.	
☐ Describe how intended implementation differed from actual implementation.	
☐ Describe the conditions, factors, or context necessary for implementation success.	

Organizations and research partners should collaborate and partner with stakeholders from the priority community to plan and execute all activities.

Reflection questions

1. How can you adapt the solution to account for the intended implementation context (including anticipated facilitators and barriers)? If the solution was previously implemented, what was the implementation context, and how is it similar to or different from this implementation context?
2. Does the priority community demonstrate readiness and willingness to use the solution?
3. If the solution is not useable or useful to the priority community, how can it be refined?
4. What solution adaptations are solution users making and why? Were they by choice, by accident, or due to constraints? How can you learn from these adaptations to refine the solution?

Checkpoint

Organization implements solution as intended at least once before proceeding to Phase 3.

☐ Planning ☐ Execution

Principle: **Outcomes**

Solutions generate evidence of improving outcomes for students and their teachers.

Planning and execution activities

- ☐ Analyze at least one preliminary indicator of a short-term or long-term outcome to show that the solution implemented *might* achieve desired short-term or long-term outcomes, such as:
  - ☐ Student interest in math or writing
  - ☐ Student enjoyment, mindsets, and engagement
  - ☐ Student short-term improvement in math or writing knowledge or skills
- ☐ Identify, develop, or select measures with input from the priority community.
- ☐ Describe the research methods you will use to conduct the implementation study.
- ☐ Define the planned number of solution users and non-users (if you are using a comparison group). Please review the Sample Size Guidance for more information on the recommended sample size for the study.

Notes

Organizations and research partners should collaborate and partner with stakeholders from the priority community to plan and execute all activities.

Reflection questions

1. What preliminary indicators of short-term or long-term outcomes are important to stakeholders in the priority community?
2. What preliminary indicator can you measure that is quick, low-burden, and low cost?
3. If the solution, when successfully implemented, does not show early indicators of improving the desired outcomes, can you improve it? Why might the solution not lead to the desired outcomes?
4. How can you collaborate with stakeholders to ensure research methods are culturally appropriate for the priority community? Are there opportunities to pilot data collection instruments with the priority community before conducting the evaluation?

☐ Planning ☐ Execution

Principle: **Scalability**

Solutions can be expanded, replicated, and adapted to improve outcomes for more students.

Planning and execution activities

- ☐ Describe how users in the priority community overcome practical implementation challenges.
- ☐ Provide rough estimates of the costs of implementing the solution in the priority community.
- ☐ Document the observed implementation facilitators and barriers and the likelihood that similar facilitators and barriers will arise in a wider context.

Notes

Organizations and research partners should collaborate and partner with stakeholders from the priority community to plan and execute all activities.

Reflection questions

1. Is the estimated cost of the solution a barrier to adoption?
2. Have solution users adapted the solution in ways that would make it easier to expand to or be more applicable for new contexts?

☐ Planning ☐ Execution

Principle: **Knowledge Sharing**

Presentation of research findings is easy to understand and is shared with others including the priority community.

Planning and execution activities

- ☐ Co-interpret study findings with stakeholders before they are finalized and shared.
- ☐ Share findings in accessible ways with the priority community. Include key takeaways from Phase 2 and ways that you will use the findings to refine the solution.

Notes

Organizations and research partners should collaborate and partner with stakeholders from the priority community to plan and execute all activities.

Reflection questions

1. How can you engage the priority community in co-interpreting findings and determining next steps?
2. Are there differences between your interpretation of key findings and stakeholders' interpretations?
3. How can you share findings that are actionable, easy to understand, and relevant for the priority community?

Acknowledgments

The authors extend their heartfelt thanks to the many individuals who contributed to the development of this Measurement and Evaluation (M&E) Toolkit. In particular, we appreciate our grantee partners and the communities they serve for their rich engagement with and collaborative approach to the M&E process. We thank our technical assistance liaisons for pilot testing and providing feedback on the M&E process and early versions of these tools. At Mathematica, we recognize Alexandra Resch, Ruth Curran Neild, John Deke, and Elias Walsh for their guidance and quality assurance review; Sheena Flowers, for her creative design ideas and superior production assistance; Brittany Tabora, for coordination with external expert reviewers; Liah Caravalho, for leading our dissemination strategy; Jennifer Brown, for editorial support; and Theodora Vorias, for her help developing the glossary.

The authors also thank the following 12 external experts who offered invaluable feedback on the structure and content of the M&E Checklist and supplemental tools: Dr. Kristine Andrews, Ideas to Impact, Inc.; Dr. Emily Barton, University of Virginia & the EdTech Evidence Exchange; Dr. Beth Boulay, Abt Associates; Cathryn Cook, Saga Education; Dr. Fiona Hollands, Teachers College, Columbia University; Dr. Stafford Hood, Center for Culturally Responsive Evaluation and Assessment/University of Illinois at Urbana-Champaign; Karina Jaquet, WestEd; Dr. Heather King, Impact Genome Project; Chris Liang-Vergara, AERDF; Dr. Janelle Scott, University of California, Berkeley; Bi Vuong, Project Evident; and Dr. Tanisha Tate Woodson, Education Northwest. Responsibility for the final content of these materials is ours alone and should not be construed as individuals' or institutional approval of the tools.

In addition, we also consulted the following resources and standards to inform the development of this checklist:

- Loper, A., Woo, B., & Metz, A. (2021). **Equity is fundamental to implementation science**. *Stanford Social Innovation Review*, *19*(3), A3–A5.
- Regional Educational Laboratory Midwest at American Institutes for Research. (2018). **Aligning evidence-based clearinghouses with the ESSA tiers of evidence**.
- Richman, S., Maxwell, N., Needels, K., & Anderson, M. A. (2020). **Scaling Checklists: Assessing Your Level of Evidence and Readiness (SCALER). A guide for practitioners** (Final report submitted to the Corporation for National and Community Service). Mathematica.
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse. **(Click here to reference the WWC Handbook** and **click here to reference Common Guidelines for Education Research and Development**).
- Woodson, T. (2020). **Using a Culturally Responsive and Equitable Evaluation Approach to Guide Research and Evaluation**. Mathematica.

Checklist Authors: Ryan Ruggiero, Mikia Manley, Virginia Knechtel, Kate Place, and Megan Shoji

This publication was prepared for the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.