



Measurement and Evaluation Checklist

This tool is part of Mathematica’s suite of measurement and evaluation (M&E) tools, which provides a road map for generating timely and actionable evidence about what works for whom, and in what context. The tools were designed to promote rapid innovation and scaling of promising solutions (such as programs, practices, or products). The Measurement and Evaluation Checklist is used in Step 2 and Step 4 of the M&E process.



Learn more about the M&E process and other tools here:

<https://www.mathematica.org/features/advancing-educational-equity>

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 community partners. 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 3: Assess for Early Evidence of Success



The goal of Phase 3 is to conduct a small pilot study and demonstrate¹ that the solution is associated with improved outcomes for students in the community in focus. Phase 3 requires clearly identifying the solution's core components and successfully implementing them. Before entering Phase 3, your organization should have already implemented their solution in the community in focus and refined their solution based on lessons learned.

During Phase 3, organizations partner with community collaborators to pilot the solution with a small sample of solution users and continue to refine the solution based on lessons learned. By the end of Phase 3, the solution and the clearly defined core components should be implemented successfully, and you should have demonstrated that the solution is at minimum, associated with improved outcomes (such as higher student attendance rates). If it is the first time implementing the solution with a defined community, organizations should enter at Phase 2 to adapt the solution for the community in focus.

Key Assumptions. Before beginning activities in Phase 3, organizations should have completed the following activities (Please see Phase 2 activities for more guidance):

- ✓ Refined the solution, by updating the theory of change, based on the implementation context and lessons learned in Phase 2
- ✓ Successfully implemented the solution in the community in focus in the same or similar implementation context
- ✓ Analyzed at least one preliminary indicator, demonstrating that the solution *might* achieve desired outcomes

¹ In each phase, you are building evidence that your solution improves outcomes for students or teachers. In phase 3, the type of evidence generated may vary depending on the research design, methods used, and sample size. Although a rigorous design (e.g. a randomized control trial or a matched comparison design) is preferred, it is acceptable to generate underpowered evidence (due to a small sample size) or noncausal evidence (e.g. correlational analysis). We recommend that organizations and research partners conduct a small pilot that is low cost and not burdensome to collaborators before moving on to a larger, preferably randomized study in Phase 4.



As a fictitious illustrative example, in the previous phase, an organization and community in focus should have **implemented** their solution in a defined community in focus and **refined** their solution—including how the solution is implemented—based on lessons learned in Phase 2. In a school in Baltimore, the solution—a mobile application for students that built on city tracking data to alert students of transit delays to avoid long wait times at bus stops—was implemented for the first time in Phase 2. After implementing the solution several times, the solution was refined by:

- Requiring students, at the time of creating their app profile, to enter the time they need to arrive at school
- Incorporating a 20-minute teacher-led information session

The solution was successfully implemented based on this refinement before moving on to Phase 3.



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 community in focus and are more likely to be successful. Activities associated with equity and community voice focus on identifying community collaborators who will partner with your organization to plan and execute all activities in each phase. Collaborators can also help organizations identify the best ways to engage and learn from the community in focus during each phase.

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.



Principle: Equity and Community Voice

Solutions are designed, improved, and tested through partnership with community collaborators.



Planning and execution activities

Organizations should plan for and complete the following tasks in Phase 3.

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

Notes

Phase 3: Assess for Early Evidence of Success



Reflection questions

1. Who will determine the research questions for the study? How do you know the study addresses questions that are relevant to the community in focus?
2. How will evaluation activities be assigned to researchers and collaborators? How will collaborators have a voice about their involvement?
3. For whom are you generating evidence, and what does evidence look like in this phase?
4. How will you get community collaborator buy-in for the study? How do you know that collaborators support the study?
5. What does success look like at the end of the study? Do you and the community agree on how success is defined?



Checkpoint

Organizations should routinely pause and reflect on the perspectives of the community and ensure evaluation activities and solution improvements align with those perspectives.



Principle: Program Articulation

Solutions are well-articulated and continuously refined.



Planning and execution activities

- Iteratively refine the solution's activities and strategies (core components), outputs, and outcomes based on lessons learned during the study.
- Describe how you refined and improved the solution based on study findings.

Notes



Organizations and research partners should collaborate and partner with community members to plan and execute all activities.

Phase 3: Assess for Early Evidence of Success



Reflection questions

1. How will you engage the community to help identify the causes of why the solution was or was not implemented successfully or why the solution did or did not improve outcomes?
2. How will you know if an activity is a core component? How will you include the perspective of the community when clearly defining the core components?



Checkpoint

Organization should clearly define the solution's core components before proceeding to Phase 4.



Principle: Implementation

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



Planning and execution activities

- Establish what implementation supports are needed as part of the solution design to ensure the solution can be implemented with adherence to the program model.
- Define which components of the program model are variable and can be adapted based on the implementation context. Note: this requires clearly defining the program core components and how these components were determined.
- Monitor implementation of the solution to confirm it was implemented as intended and identify observed implementation facilitators and barriers. 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 and describe how process targets for qualitative measures informed solution refinement.

Notes



Organizations and research partners should collaborate and partner with community members to plan and execute all activities.

Phase 3: Assess for Early Evidence of Success



Reflection questions

1. Are there additional supports you could provide to assist with implementation? How will you monitor implementation in ways that are low burden and cost effective?
2. Can the solution benefit from additional testing to see if the solution is usable, useful, and utilized?
3. If targets for implementation were not met, why not? Was there a failure in the research method, implementation, or theory? How can implementation be improved based on this information?



Checkpoint

If “good” targets for implementation are not met, the organization should return to Phase 2 and consider improvements to the solution based on study findings. Ensure solution’s core components are clearly defined and solutions are implemented as intended before proceeding to Phase 4.



Principle: Outcomes

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



Planning and execution activities

- Analyze at least one outcome to show that the solution is associated with improved outcomes, such as:
 - Student math knowledge or writing proficiency (required)
 - Student enjoyment, mindsets, and engagement
 - Other short-term outcomes
- Identify, develop, or select measures with input from the community in focus. Review the [math](#) and [writing](#) menus of measures for a list of recommended measures, if needed.
- Define the research design and methods you will use to conduct the study.
 - Randomized controlled trial (preferred)
 - Quasi-experimental design (e.g., matched comparison design) (preferred)
 - Correlational analysis (such as a pre/posttest) with statistical controls (acceptable)
- 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.
- Systematically document the business-as-usual condition or other comparison condition.
- Describe differences in outcomes across student groups or intersections of student groups or differences across different implementation contexts.
- Meet or exceed “good” targets for outcomes and describe rationale as to why “good” targets are ambitious.

Notes



Organizations and research partners should collaborate and partner with community members to plan and execute all activities.

Phase 3: Assess for Early Evidence of Success



Reflection questions

1. What type of evidence do you need to feel moderately confident that the solution is associated with improved outcomes for students or teachers? Does the community need a different type of evidence in order to feel confident in the solution? If so, how can that be addressed?
2. How long do you expect the solution to take to lead the desired outcomes?
3. If targets for outcomes were not met, why not? Was there a failure in the research method, implementation of the solution, or theory of action?
4. If you implemented the solution as intended and did not achieve the outcomes, how can you refine the solution? Is it a good fit for the community in focus? Why or why not?



Checkpoint

If “good” targets for outcomes are not met, the organization should return to Phase 2 and consider refinements to its solution based on learnings from the study. Organizations should meet or exceed “good” targets for outcomes before proceeding to Phase 4.



Principle: Scalability

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



Planning and execution activities

- Identify additional sites the solution could serve.
- Document the quantity and types of resources needed to implement the solution, as well as costs per student and per site.
- Collect information to assess if the solution is affordable and competitive with alternative solutions.

Notes



Organizations and research partners should collaborate and partner with community members to plan and execute all activities.



Reflection questions

1. How do you know the solution is affordable for organizations that might purchase or fund the solution? Are funding sources or supports for the solution sustainable?
2. How can you collect information about the cost of the solution in ways that are low burden?
3. Are there ways to reduce the resources needed to deliver the solution to make it more accessible or affordable?
4. How does the cost of the solution compare to alternative solutions?
5. Do the benefits of the solution outweigh the cost?



Principle: Knowledge Sharing

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



Planning and execution activities

- Co-interpret study findings with collaborators before they are finalized and shared.
- Share findings by facilitating a two-way discussion with the community in focus. Use nontechnical language to describe key takeaways from Phase 3 and ways you will use the findings to refine and improve the solution.
- Share findings with the education field, where possible and relevant.

Notes



Organizations and research partners should collaborate and partner with community members to plan and execute all activities.



Reflection questions

1. How will you conduct a two-way discussion to encourage the community in focus to freely share their perspectives and thoughts? What platforms can you use?
2. How will you capture feedback from attendees during the session?

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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.

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