Data Use for Program Improvement:
A Framework and Toolkit

Contents

Introduction

All too often programs do not reach their full potential in terms of outreach, outcomes, and impact. ([1]Furthermore, populations' needs for education, protection, and social service support far exceed available resources in both humanitarian and development settings, highlighting the importance of more strategic programming.[2,3] However, a lack of data and effective data use hinders strategic learning and engagement and can even inadvertently increase the marginalization of already vulnerable groups (i.e., subgroups of program participants).[4]

The use of program data can help improve programs' outreach, outcomes, impact, cost-efficiency, and equity to enable programs to support more participants, more effectively, even given limited resources. Unfortunately, program staff often lack frameworks, guidance, resources, and incentives to enhance the use of monitoring and evaluation data for learning and program improvement.[5] As a result, most data that programs collect are not used in a timely manner or are only used for accountability rather than for program improvement.[6] In short, increasing the use of data to improve programs can help us achieve more with less.

Current data-related frameworks focus on individual data collection and evaluation elements needed for improving program implementation quality (PIQ) rather than on the multiple interrelated supporting systems. For example, a typical monitoring, evaluation, accountability, and learning (MEAL) framework may show how to link data to log frames and a general data life-cycle, but may lack details on the use of data for continuous program improvement.[7] Other frameworks, such as the Utilization-Focused Evaluation Model,[8] prioritize the use of evaluation data for program improvement, but largely ignore how existing program and monitoring data could be used internally and continuously for PIQ. In addition, high-level frameworks for data use in EiE do not provide the necessary details for aiding PIQ within individual programs.[9]

How can we better link data and its use to improve our programs' outreach, outcomes, impact, and cost efficiency? This document seeks to address this question by providing a program implementation quality (PIQ) framework, examples, and practical tools for program managers and other staff to enhance the use of data for program improvement. This framework and toolkit are designed to help programs reach their full impact potential by providing guidance on how to employ quality improvement decision making in low-resource and conflict-affected educational contexts.

We present a framework to enhance the use of data for improving program quality. This model has been developed based on a review of the literature on data use,[10] evaluation use,[11] research mobilization,[12] and data-informed decision making,[13] and three case studies situated at the intersection of humanitarian and development work, specifically International Rescue Committee (IRC) programs in Nigeria, Pakistan, and Sierra Leone.[14]

This framework is presented in four sections; for each section of the framework, we provide a summary statement, a brief explanation, common challenges, and a table with links to relevant questions, templates, and examples. The intended audiences are program managers, technical support staff, program staff, and staff in charge of monitoring, evaluation, and learning (MEAL).

The reader may choose to use this PIQ guidance in one of the following three ways:

1. Reading the framework in its entirety without engaging with the linked resources;
2. Engaging with the resources linked throughout the document while reading and saving those of interest for future reference; or
3. Navigating to a section of interest to explore linked resources further in-depth.

What Is Program Implementation Quality (PIQ)?

Program implementation quality (PIQ) considers the alignment of what is being implemented with how well it is being carried out to achieve the goals and purpose of a program. Implementation quality is the "discrepancy between what is planned and what is actually delivered."[15] Rather than using the outputs as the starting point for determining the quality of a program, PIQ emphasizes examining critical elements of a program and the way these work together.

To examine program quality, a program must be tied to a theoretical underpinning that clearly identifies the mechanisms of change. Beyond the program model, it is vital to understand the corresponding support systems that uphold the mechanisms of change.

In educational settings, it is not uncommon for a program to drift away from intended outputs and outcomes via the program model and the supporting systems.[16]

Although quality of program implementation has been shown to improve outcomes for participants,[17] it is often overlooked, while attention and resources are directed towards outputs and outcomes.[18] Without attention to improving PIQ, a program will not achieve its fullest potential and will likely remain stagnant rather than evolving to more effectively meet the originally intended goals. In some cases, poor implementation quality, poor alignment of activities and context, and poor conflict sensitivity in education programs can also cause harm.[19] Although central to learning, projects often face challenges in devoting the required resources, employing appropriate measures, and developing effective processes to continuously improve and ensure a high PIQ. This is especially true when a donor focuses unilaterally on outputs, or when program staff direct efforts primarily toward activity completion and outreach.

How Do We Use Data To Improve PIQ?: A Conceptual Framework

This document presents a holistic framework that considers the use of data for PIQ. We use a wind turbine to illustrate this framework graphically (see Figure 1, page 5). The figure provides a visual metaphor to illustrate the combination of elements that need to be in place to support data use for program improvement. Each element needs to function properly in order to generate data-informed decisions and actions that lead to improved programs. The idea is that when all the elements are in place, working together, they will generate the "energy" needed to power program improvements, but when one or several of the elements are not running well, the entire system is affected and can inhibit the use of data for improving PIQ.

The elements of the wind turbine are the *foundation*, the *engine*, and the *blades*, with the *wind* moving the blades. The *foundation* represents the Theory of Change (ToC) of a program and is made up of a clear purpose that specifies a problem, inputs and activities, outputs, outcomes,

and impacts. The *engine* represents the measurement, evaluation, accountability, and learning (MEAL) system, which is at the center, driving the use of data for program improvement, and should be conceptualized holistically. The MEAL system contains a log frame that operationalizes the ToC into targets and indicators assessed by specific measures, as well as a set of procedures that are necessary for designing, collecting, processing, interpreting, and using qualitative and quantitative data. The *blades* represent the technical, human, financial/temporal resources needed to carry out MEAL processes that support the use of data for PIQ. Finally, the *wind* represents a culture of learning that will move the blades and generate the energy for program improvement.

We explore each section of the framework in further depth below, identifying common challenges that could cause the system to fail and what is needed for the system to work.

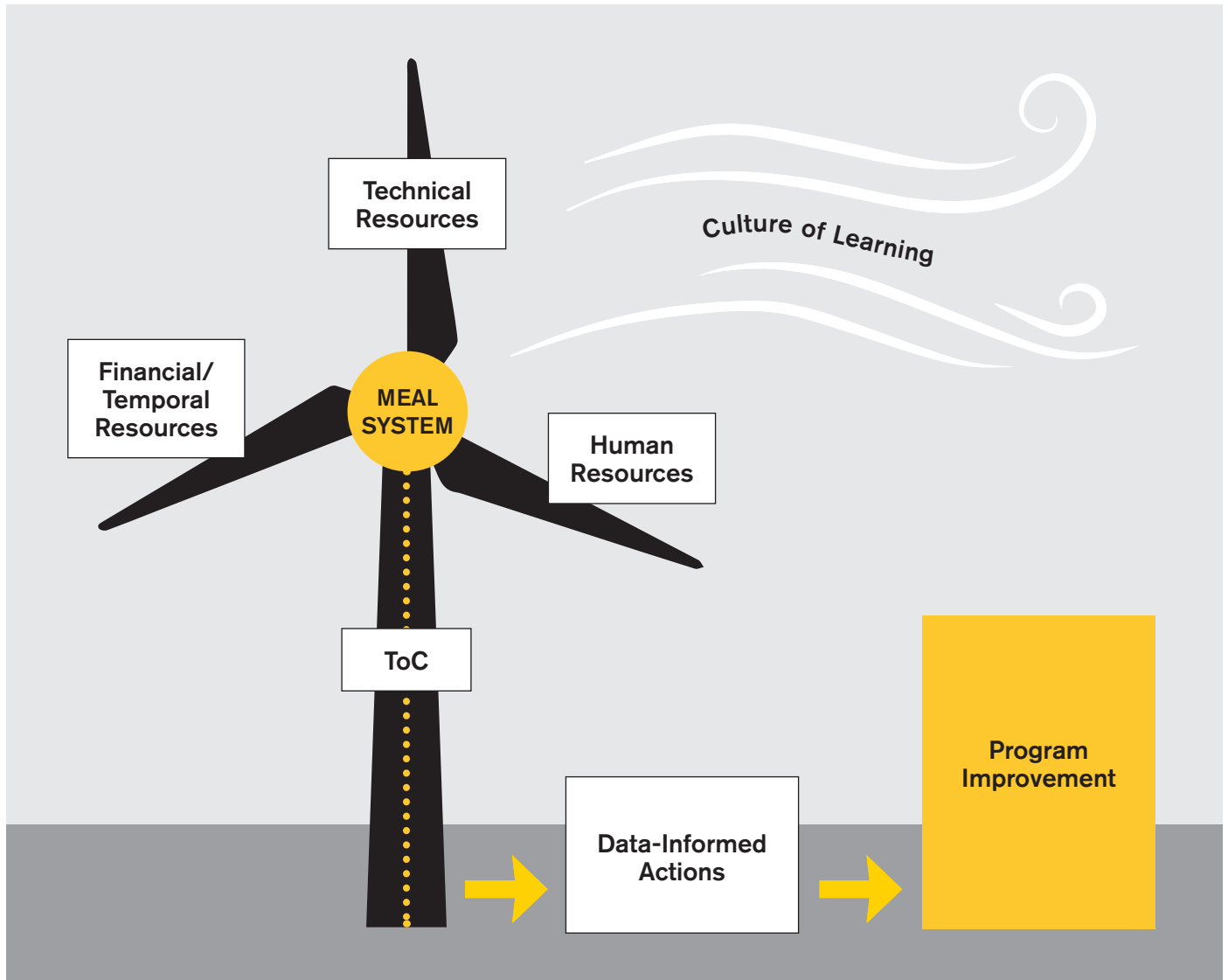**Figure 1: Data Use for Program Improvement Framework**

Table 1: Guidance and Tools on Developing a Theory of Change

Topic	Questions To Ask	Resources	Examples
Theory of Change	Do you have a Theory of Change (ToC) that helps you link your program purpose to your activities and collect data on these linkages? At which strategic points will you revisit your ToC to determine if data suggest a change to the ToC is needed? How do existing data from your context support your ToC?	Tips for Developing a ToC Guidance on Creating a ToC and Running a ToC Workshop with Stakeholders Theory of Change Explanation and Examples Practical Guidance on Developing a Theory of Change INEE Tip Sheets to Navigate Existing EiE Data	Example ToC from PRP Example ToC from EAGER Example ToCs from FCDO/DFID[23]

SECTION 1. The Foundation: A Clear Theory of Change

Staff must have a deep understanding of the program's Theory of Change to set the foundation for using data for program improvement.

Common Challenges in Developing a Theory of Change (ToC)[20]

1. Understanding (or misunderstanding) what a ToC is, the purpose it serves, and how to develop it
2. Ensuring that the ToC is linked to a theoretical understanding of what will facilitate change within the program
3. Developing a comprehensive ToC that covers all key elements of the project while still being concise, understandable, and practical enough to convert into a tool for MEAL
4. Having sufficient data from the program context at the start of a program to inform the ToC
5. Engaging all relevant stakeholders to contribute to the ToC
6. Dedicating sufficient time to developing a ToC

All program staff should share an understanding of and commitment to the program's purpose and the path to achieving that purpose. Developing an evidence-informed ToC is essential to the process of connecting program activities to the overall program goals regarding outcomes and impacts.

The ToC provides the framework for understanding how activities connect to reach the program's intended impacts and how data helps track the quality and assumptions that underlie that causal chain. This is a necessary condition for interpreting data in a way that allows for course-corrective actions that support achieving the overall purpose of the program.[21]

Each program must develop a comprehensive ToC that provides the conceptual links between inputs, activities, outputs, outcomes, impacts, and the underlying assumptions that enable each of these to be achieved with quality.[22] Ideally, a ToC should be evidence-informed, meaning that it should be developed by drawing explicitly from the best available evidence-informed theories, practitioner expertise, participant preferences, and contextual conditions.

Refer to the call-out box for common challenges in developing a theory of change that sets a strong foundation to use data for program improvement. The questions, resources, and examples provided can guide a more strategic approach to developing a theory of change (see Table 1).

SECTION 2. The Engine: A Well-Designed MEAL System

A MEAL system operationalizes the ToC. It is captured with a log frame and a set of processes that specify how a project will track and assess progress toward targets.

A project monitoring, evaluation, accountability, and learning (MEAL) system covers all the work carried out during a project to define, select, collect, analyze and use the information to track program progress, assess outcomes, demonstrate accountability to stakeholders, and improve current and future program delivery (Lawday & Kindler, 2021). A MEAL system is the place where a project operationalizes a ToC in a log frame with targets and indicators; it is tied to a specific set of processes and resources (including measurement tools) to track activities, outputs, outcomes, and impacts.

To support PIQ, it is essential that staff responsible for MEAL, program delivery, and overall management understand that one of the primary purposes of the MEAL system and its data is to identify opportunities to improve, learn, and course correct during the program to better achieve the overall purpose of the program. This priority of learning from MEAL data needs to be given equal weight compared to data that are required for evaluation, budgeting, and accountability.

Refer to the *call-out box* for common challenges in developing a MEAL system for improving PIQ. Questions, resources, and examples provided can support a program in developing a well-functioning engine to drive processes for using data for program improvement (see Table 2).

Logical Framework

A logical framework (log frame) aligns program inputs, activities, outputs, outcomes, and impacts from the ToC with timelines, indicators, assumptions, and means of verification.[25] A log frame converts the key elements of the program into concrete and measurable indicators that can facilitate planning and tracking implementation. In order to facilitate PIQ, a log frame should be aligned with the ToC. A log frame's data and indicators should be based on valid, reliable, and feasible indicators and data sources. In order to support PIQ, log frames should also consider indicators related to the implementation of activities that explicitly support the use of data for improved PIQ (see Section 3 below for more details).

Processes

Organizational processes and routines should be set up to enable people to engage with data and each other in order to make decisions that lead to program improvement. At each stage of the data process—design, planning/start-up, implementation, and project closure[26]—considerations should be made to ensure data is useful for improving program implementation quality.[27] Each part of this framework is linked to the MEAL system as indicated by its central role within the framework imagery (see Figure 1).

Design

In the design phase, a theory of change and a log frame are developed based on data, evidence, and learning. Requirements, costs, and staffing for monitoring, evaluation, accountability, and learning are defined in project proposals.

- Use existing data to inform program design including the purpose, theory of change, and budget.
- Review existing Humanitarian Needs Overviews and Education Cluster member needs assessments before conducting a needs assessment.[28] For tips on navigating existing EiE data, see the INEE EiE data tip sheets.
- Plan for the people, processes, and specific budget line items that support the use of data for program improvement as outlined in Section 3 of this framework.

Planning/Start-up

In the planning and start-up phase, a monitoring, evaluation, accountability, and learning plan is created to guide the collection, management, and use of data. The program's data collection and management system are established using high-quality and contextually appropriate tools with proven validity and reliability.

- Design a MEAL plan that aligns data collection to each element of the theory of change in order to track progress or identify challenges. See the IRC MEAL Handbook and Framework and the Save the Children MEAL Framework[29] as examples.

- Ensure that the MEAL plan balances data that will be collected and processed for program improvement uses as well as other more common uses (e.g., monitoring, budgeting, accountability, evaluation). For more information, refer to the Liket, Rey-Garcia, and Maas (2014) data use framework and the INTRAC resources on data use.
- Align the data and program life cycles so that they can inform each other. For example, if programs are implemented in cohorts, ensure firstly that data from one cohort are ready to inform improvements for the next cohort and secondly that there is sufficient time between cohorts to enact changes.
- Engage program staff, technical experts, and community members when developing the MEAL plan to ensure that indicators and data collection tools are aligned with needs, capacities, contextual constraints, and data user expectations.
- Use existing data and tools whenever possible and contextualize them. You can use this Measure Guidance on contextualizing educational measures. Consult with program staff about what data will be generated automatically during activities and consult the existing database of tools for collecting data. You can find existing tools and databanks of indicators from the INEE Minimum Standards Indicator Framework, the INEE Measurement Library, and the UNRWA Indicator Harmonization Process.
- Ensure your MEAL indicators are Specific, Measurable, Attainable, Relevant, and Time-bound. See the Global Education Cluster two-page guidance note on defining indicators.
- Only collect data that you plan to use in support of the program's purpose in a manner aligned with the Theory of Change (see Section 1 above).[30]
- Tools to support more participatory approaches to MEAL can be found at SAS and guidance on designing MEAL systems that consider children's participation can be found at Plan International.
- Put in place routine interactions between MEAL and program staff at each level of a program and across levels. Because MEAL and program staff can quickly pinpoint context-specific issues and

take direct actions to course-correct localized operational issues, often the most fruitful interactions between MEAL data and program implementation staff happen at the lowest geographic unit of implementation.[31] Such routinized interactions can take the form of explicit meetings on data use that include both MEAL and program staff; regular program implementation meetings that include a MEAL representation to share data-related inputs; regular MEAL meetings that include a program representative; or even one-on-one interactions between MEAL team members and supervisors who are responsible for validating/interpreting data.

- Ensure that processes are in place for management to periodically review internal program data and identify challenges that may prevent achieving the program's purpose. This should be done on a regular basis internally to ensure that the project is on pace to achieve outcomes and that any findings from the external midline and endline evaluations are not a surprise.

Implementation

During the implementation phase, data are collected ethically using the appropriate disaggregation and methodologies, and processes are in place to ensure high quality of data. Data are also analyzed and shared for the project team to better understand performance, make decisions, and adapt programming.

- Capture data related to the quality of a program's inputs, activities, and outputs and their supporting assumptions—not simply their occurrence.[32]
- Track program implementation fidelity and balance fidelity with data-driven decisions to adapt implementation. See the Guidance on balancing program fidelity and adaptation from the University of Wisconsin.
- Determine who will use each type of data and ensure a system is put in place to process, interpret, and present that data in a way that key users can engage with in an efficient manner.[33]
- Look for opportunities to use data generated through the course of daily program operations

as part of the MEAL system rather than relying primarily on data collection systems that are disconnected from implementation.[34]
- Consider ways to efficiently disseminate qualitative data that might be more useful for decision-making along certain program dimensions.[35]
- Consider what changes are feasible at each point in time and prioritize the analysis of that data. For example, data on improvements to teacher learning circles or teacher coaching could be analyzed regularly to improve delivery while data on curricula or teacher training material could be analyzed periodically prior to curricula re-prints or refresher trainings.
- The primary portion of the MEAL system should be maintained internally and should not be outsourced unless necessary[36, 37]

Project Closure[38]

- At project closure, findings and resulting adaptations are captured, stored, and shared to maximize learning and to provide evidence for past, current, and future programming decisions.
- When designing a final evaluation, consider doing so within a framework that prioritizes how the evaluation will be used, such as Utilization-Focused. This will help design an evaluation that links to subsequent actions, such as informing scale-up or disseminating best practices to other development and government partners for sustainability. Learn more about evaluation with this UNICEF online training.
- Compile and share data along with lessons learned that would support the continuation of aspects of the program by local government, civil society, and private sector partners.
- Ensure that there is sufficient time between the end of data collection and the budgetary end of the program so that insights from relevant data can be compiled and shared.

The MEAL system drives the use of data for program improvement, but to do so, it must be connected to the people, processes, and resources within the program (see Section 3).

Table 2: Guidance and Tools for Developing a PIQ MEAL System

Topic	Questions To Ask	Resources	Examples
Log Frame Establish the Purpose of Data	Does the log frame align with and establish measurable indicators for the stages and assumptions that underlie the program ToC? Does each step in the project's ToC have at least one indicator in the log frame that you plan to use for program improvement? Do you know how you will gather that data and who is responsible for taking action based on that data?	Guidance on developing log frames from IRC and Itad Framework for considering different purposes of data, ensuring a balance between data for program improvement and other uses The Utilization-Focused Evaluation Primer provides a framework for thinking about data use and users (e.g., user identification pp. 24-30)	PRP Log Frame EAGER Log Frame Example of an Application of UFE in an international development education program
MEAL Design Conceptualize a Data Journey	How can you use existing data and needs assessments to inform the design of your program and MEAL? What data is being collected by other cluster members and what data gaps exist? How and who will use what data over the life-cycle of the program? How would you visualize or summarize this data-use journey?	Global Education Cluster Needs Assessment Guidance For data journey visualization examples, see pp. 28-29[39] Course by SMC for building MEAL capacity of humanitarian professionals	North-East Nigeria Joint Education Needs Assessment Example
MEAL Planning Create Opportunities and Strengthen Capacities for Data-Based Decision Making	How does your MEAL plan balance data for program quality improvement with other data uses? How can you facilitate regular reflections on the use of data for decision making? What workflows can support the interaction of MEAL staff, program staff, and management in their day-to-day work? Does your MEAL budget include costs related to processing, presenting, discussing, and enacting program improvements based on data?	MEAL design frameworks from IRC and Save the Children (pp. 187-190) Data/Evaluation Use Framework Consider establishing a learning agenda (see USAID's Learning Agenda Guide and Template Strengthen staff capacity for the analysis and interpretation of data for learning and decision making. See IRC's Guide for Engaging Staff in Critical Thinking in Data Use, Analysis, and Interpretation and an IRC Tool for Analysis and Interpretation for Learning and Decision-Making Consider the elements of a supportive data ecosystem—especially at the governance level. See a model of a data ecosystem and an adaptation of the model for humanitarian settings[40]	PRP MEAL plan In the EAGER case, the use of program staff for data collection and the supervision of data validation by program managers ensured data users were extremely familiar with data.

| MEAL Implementation[41]

Create regular spaces for MEAL and program staff to discuss lessons learned and actions for program improvement. | How regularly are MEAL and program staff meeting to consider how data can inform program improvement?

Do you need different regularities of meetings at different phases of the program and at different levels of implementation?

How are they involved in data collection, processing, interpretation, and use? | MEAL RACI Chart

Develop regular Project Learning Meetings (see IRC's facilitation slide templates on Facilitating Project Learning Meetings)

Consider model meeting schedules, participants, and levels from PRP as an example. | Data journey example from WASH

EAGER Monitoring Tools Guide that distinguishes personnel involved for each tool

Guide for EAGER data review meetings with partners

The PRP and the EAGER cases demonstrate the establishment of routine spaces for MEAL staff and program staff to discuss data for program improvement. In both cases, meetings close to local implementation (operational data for decision making) were more frequent than strategic meetings at the national and organizational level. |

For further information on the data and MEAL process, refer to INTRAC's M&E Universe with short papers on a variety of related topics.

SECTION 3. The Blades: The Technical, Human, and Financial/Temporal Resources Needed To Carry Out the MEAL Plan

Technical Resources

Common Challenges in Aligning Technical Resources with Improving PIQ

1. Identifying valid and reliable measures that are fit for purpose and/or deciding when to develop new measures or adjust existing ones, balancing previous validation work with contextual and project needs
2. Systematizing tools across implementing partners while allowing flexibility to capture multiple types of data for triangulation
3. Leveraging electronic data collection technology while ensuring data collection methods account for the capacities of staff and logistical constraints (e.g., electricity, internet, safety concerns)
4. Maintaining timely and relevant data dashboard/visualizations in ways that all various relevant stakeholders can access, understand, and make decisions on, according to their roles.

Technical resources—including data collection and processing dashboards/platforms—are particularly important for enabling decision making by simplifying complex data with a visual representation and/or by providing real-time data that enables course corrections that are time-sensitive. The use of such technical solutions always has implications for capacity strengthening to ensure both MEAL teams and program teams can effectively populate, use, and interpret them. Therefore, such technical systems should be co-developed, and follow design principles that engage their users early in the process to ensure the technical solutions are actually used.[42] When possible, teams should use existing solutions rather than creating new tools that are susceptible to delays and errors.

Measures should be used to collect data that are important for understanding the implementation quality of elements of the ToC. An instrument should capture key constructs and align with the ToC, be contextualized for the target population and context, and have evidence of validity and reliability for the target population and context. Find existing tools with validity and reliability established for a variety of populations and contexts in the INEE measurement library. To contextualize measures that have not yet been used with the relevant target population/context, refer to this Measure Guidance.

Refer to the call-out box for a list of common challenges in aligning technical resources with improving PIQ. The questions, resources, and examples below support a strong blade that can resist damage that would inhibit the flow of data for program improvement (see Table 3).

Table 3: Guidance and Tools for Aligning Technical Resources with Improving PIQ

Topic	Questions To Ask	Resources	Examples
Technical Resources/ Tools	What technical data collection, analysis, and presentation tools (and methods) will be most useful for your program and the users of the data (given the project scope, budget, and timeline)? How can you use data dashboards to show the highest priority data for decision making?	KOBO quick start guide (public) and Data for Development training Microsoft Power BI training Excel dashboard creation guide Pivot table creations (Excel) guide	PRP dashboard explanation
Measures	Do you have measures that capture key constructs and align with the ToC? Are your measures contextualized for the target population/context? Is there evidence of validity and reliability for the target population/context? Do you have multiple types of data, including both qualitative and quantitative?[43]	Find existing tools and data-banks of indicators from the INEE Minimum Standards Indicator Framework, the INEE Measurement Library, and the UNRWA indicator harmonization process. Measure Guidance on contextualizing educational measures.	As one of many examples, the EAGER team developed a tool to measure girls' learning in basic literacy and numeracy (see p. 56-64) to help provide data on activities under the Learning output from the ToC or Output 2 from the Log Frame.

Human Resources

All staff should consider it their role to use data to improve the program, should be provided with the necessary capacity strengthening for that role, and should be given incentives that align with their motivations.

Common Challenges in Aligning Human Resources with Improving PIQ

1. Putting in place scaffolded capacity-strengthening at multiple touch-points related to data collection, analysis, interpretation, and use, and avoiding relying on a single MEAL training for all
2. Troubleshooting insufficient routines and procedures that facilitate collaboration between MEAL staff and program staff to ensure that data are relevant and used for PIQ
3. Minimizing barriers to the alignment of data collection, analysis, and action across partners in programs that have more than one implementing partner
4. Defining clear roles and responsibilities with staff and partners, to ensure both MEAL and program implementation staff feel responsible for using data for PIQ
5. Balancing the need to train staff on higher-tech tools and more intricate processes with the contextual challenges on the ground
6. Ensuring staff have incentives to gather high-quality data and use data for program improvement and that incentives align with their motivation styles

The successful use of data for program improvement is a social process. To be achieved, programs need to identify and address the roles, capacities, and incentives of the people involved in data collection, decision making, and program delivery.

First, consider **roles**; barriers between data *collection, analysis, and use* need to be minimized. To achieve this, it is important to consider building teams that include both MEAL and program staff, understanding the tradeoff of assigning program delivery staff to data collection,[44] and ensuring all staff consider the use of data for program improvement to be a fundamental part of their roles and responsibilities for which both program and MEAL staff are held accountable.[45] When hiring staff, keep in mind particular skills that are vital to ensuring all stages of date use for PIQ can unfold smoothly. These skills may be spread among various staff members and may include managing the overall data process and personnel; data collection and staff training[46]; data organization and protection; quantitative and qualitative data analysis[47]; communication of data findings to meet different stakeholder and staff levels, needs, and interests; data visualization skills (such as the ability to build dashboards, work with PowerBI or similar systems).[48] Finally, remember that the MEAL team must include strong skills in communication, facilitation, and relationship management in order to successfully collect data and ensure that it is useful for improving PIQ. The lack of such interpersonal skills among highly technical teams can cause problems in data collection and use.

Second, consider **capacities**; it is important that programs continuously assess and support the strengthening of staff capacities at all levels of the data-use life cycle.[49] Capacity constraints often hinder data use in humanitarian settings.[50] Those collecting and analyzing data need to be provided with staff development workshops over time that include both data collection and the data's purpose. It is also important that program implementation and management staff are provided with development opportunities on how data can inform their work and support a culture of learning.[51] When designing measures it is necessary to engage community members and data collectors to ensure the measurement tools are adapted to your context and the capacities of data collectors and respondents (e.g., measures requiring reading or writing will not work in contexts where data collectors or respondents have low-literacy or electronic methods may be difficult to deploy if data teams lack familiarity with computers or other technology). Staff development should be done regularly with training on different aspects spread out to progressively improve capacities, this is especially important for long or complex projects.

Third, consider **incentives**; it is important to align incentives with individuals' motivations for engagement. Some will be motivated by direct financial incentives, others will be motivated through collaborative engagement and social recognition (e.g., certificates), and others will be motivated by hierarchical accountability structures and the recognition of supervisors.[52] Carefully consider which incentives will work for whom. The misalignment of incentives can backfire; for example, using financial incentives for those who want to be treated as collaborative equals may reduce their motivation for high-quality data collection and use. When there are no incentives (neither financial, social, nor personal) connected to using data for PIQ, then data will likely be poorly collected and poorly used, and instead, staff will focus on completing activities and will view data as an externally motivated reporting requirement.

Refer to the call-out box for a list of common challenges in aligning human resources with improving PIQ. The questions, resources, and examples below support a well-connected blade that can resist the detachment of roles and capacities from existing processes that would interrupt the flow of data for program improvement (see Table 4).

Table 4: Guidance and Tools for Aligning Human Resources with Improving PIQ

Topic	Questions To Ask	Resources	Examples
Roles	How can you ensure that both MEAL and program staff have the skills for and feel that the use of data for program improvement is part of their role?	MEAL RACI Chart Consult Evaluation organizations for expertise or advice, such as the African Evaluation Association, Better Evaluation or the American Evaluation Association Quantitative data analysis software: R, Stata, MatLab, SAS, or SPSS Qualitative data analysis software: Dedoose, NVivo, or atlas.ti UNICEF online courses: Information Visualization and Evaluation Viz for Social Good—an organization that provides data visualization support	See EAGER Session Observation and Coaching Tool facilitating staff to use the data to immediately provide effective feedback (see pages 38-47)
MEAL Capacity Develop-ment Workshops	How will you develop the capacity of the MEAL staff *and* the program staff regarding data collection, analysis, and use?	USAID's toolkits on Monitoring and Evaluation MEAL Model and Guide Humanitarian Global Service Actors The Kaya platform also provides training resources, such as the FIELD Program	EAGER trainings for staff on using monitoring tools See the Training of Trainers presentation and the subsequent Step-Down Training presentation with an accompanying Step-Down Training Supplementary Guide
Incentives	How will you motivate high-quality data collection, analysis, and the timely use of data for program improvement? Who is motivated by social means (engagement or recognition), financial means (pay or penalty), or by authority (directives by supervisors)? How are you using financial and non-financial incentives?	Typology of Sources of Motivation	In the EAGER case, staff demonstrate social motivation to use data to improve programming as they interact simultaneously with data collection tools and the people they manage such as when they conduct session observations and immediately use their data findings to guide conversations

Financial and Temporal Resources

The use of data for program improvement requires the dedication of financial and temporal resources to activities explicitly related to the interpretation, use, decision-making, and course correction of data.

Common Challenges in Aligning Financial and Temporal Resources with Improving PIQ

1. Interfacing with donors regarding budget flexibility to allow for program improvement
2. Facing insufficient funds and time allocated to support activities and capacity development specifically focused on the use of data for improved PIQ
3. Ensuring sufficient flexibility in implementation activities and overall program funds to make adjustments needed to implement data use for PIQ
4. Being sure to schedule explicitly for periods of program adjustment (e.g., gaps between trainings or cohorts of students to enable changes to program design based on data for PIQ)
5. Avoiding delayed program start-up phases that compress timelines and reduce the ability to develop good MEAL systems for PIQ and to subsequently make adjustments

As noted above, the MEAL plan should be outlined in the program work plan with sufficient dedicated budget-line allocations linked to MEAL activities to ensure that they are sufficiently funded. As part of this it is important to include the financial resources that are required to cover the staff time, travel, and meeting facilities to be used when teams meet to consider

how to use data to inform program improvements. Financial resources may also be needed for specific data follow-up activities to confirm if a certain course correction is indeed justified.

Moreover, program teams need to deliberately allocate sufficient temporal resources. Program and management staff should dedicate regular time to engage with data in a meaningful way that can inform practice. MEAL teams must also allocate time to engage with program staff to understand their needs and concerns regarding data. Many programs fail to incorporate data-informed program improvements simply because they have not systematically dedicated time to doing so—often due to overly ambitious implementation plans. The program work plan also needs to deliberately allocate time to learn and course correct based on data, for example, by preserving sufficient time to adjust the program between the periods of different cohorts of participants, such as between school years or between training cohorts.

The idea of course correction and program improvement requires change. Such changes are likely to have ramifications throughout the data and program systems. Therefore, each element of this framework must be flexible, including a flexible budget.

Refer to the call-out box for common challenges related to aligning financial and temporal resources with improving PIQ. The questions, resources, and examples can be used to maintain a resistant blade that will consist of flexible financial and temporal fibers that can adjust to various conditions and maintain the flow of data for PIQ (see Table 5).

Table 5: Guidance and Tools for Aligning Financial and Temporal Resources for Improving PIQ

What	Questions to ask	Resources	Examples
Include budget set-asides for course correction	Do you have sufficient budget for the MEAL plan? Does the budget include necessary line items to support data use for program improvement? Are there flexible budget lines or is there a clear process for budget revision?	MEAL template with a budget section	EAGER MEAL budget (see tab Overall.M.E. on the document)
Financial flexibility	Do staff know what parts of the budget are flexible and are their time-sensitive processes for reallocating financial or physical resources?	As a rule of thumb, consider having a portion of the budget as a flexible set-aside and increasing this percentage in highly volatile settings. Ensure program management knows the timeline and procedures for requesting budget changes with funders.	The PRP case provides an example of how data-informed decisions to reallocate project resources including training support and physical materials.
Temporal	Are there more efficient and effective ways for you to track staff time allocated to various activities?	Consider including the use of data for program improvement into the tracking of staff time, staff planning, and staff assessments to ensure that spending time on data use for program improvement is prioritized. Consider this USAID Guidance on developing a culture of learning.	The PRP Workplan guided the level of effort for staff

SECTION 4. The Wind: Cultivating and Strengthening a Culture of Learning

Even when a program has assembled all the parts (foundation, engine, blades, stem) for supporting the use of data for improving program implementation quality, change will only happen if the initiative and organization are cultivating a culture of learning. A culture of learning provides the wind that moves the blades of the wind turbine. Organizational culture is a common barrier to evidence-informed practices within civil society organizations.[53] The presence or absence of a culture of learning and adaptation has been shown to influence the adoption of improvements and data use in humanitarian settings.[54]

Although there is general agreement that a culture of organizational learning is important, there is uncertainty about how to practically improve it.[55] The broader literature on organizational culture and learning does provide some guidance. For example, David Waller recommends ten steps to creating a data-driven culture.[56] INTRAC has documented five areas that often need to be strengthened to support a culture of data use for learning and program improvement.[57] USAID has also developed a set of resources to support a culture of learning, including a 45-minute course, a toolkit, and a tool for self-assessing the current state of "collaborating, learning and adapting" (CLA) in your program or organization.[58]

Assumptions To Consider

In order for data to be used systematically for program improvement two main assumptions must be fulfilled.

- These findings have been derived from long-term programs. It may be difficult to institute many large data-informed program improvements if the timeline of a program is less than a year.

- The bulk of the MEAL system should be operated in-house by program staff and its program partners (not outsourced to short-term consultants) to facilitate close and sustained collaboration between MEAL and program staff.

Conclusion

This program implementation quality conceptual framework addressed the question of how we can better link data and its use to improve program implementation quality in humanitarian educational contexts. We have presented a holistic framework, illustrated by a wind turbine, demonstrating the use of data for PIQ as a multi-layered system involving the interaction of key elements of the program. With a solid foundation (Theory of Change), a strong engine (MEAL system), well-functioning blades (resources: technical, human, and financial/temporal), and wind (culture of learning), effective data-informed actions can be generated for program improvement. However, when one or several of the elements are not functioning well, the entire system is affected and can inhibit the use of data for improving PIQ. Attention to each element is essential to ensuring the use of data for program improvement. Throughout, we have identified related challenges, examples, and practical tools for program managers and other staff to enhance the use of data for program improvement. It is intended that this framework is used among program managers, technical support staff, program staff, and staff in charge of monitoring, evaluation, and learning (MEAL), for the improvement of PIQ.

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END NOTES

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3   This is particularly true in the context of education in emergencies where the proportion of humanitarian funding allocated to education remains below 3%, making it one of the least funded humanitarian sectors despite the United Nations Global Education First goal of education receiving 4% of humanitarian funding.

4   Faul, M.V., Montjourides, P., & Terway, A. (n.d.) Education and the new inequality divides.

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7   See for example the MEAL frameworks of IRC or Save the Children.

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14 See here the general interview protocol used to explore Program Implementation Quality for the development of this framework along with three supporting case studies. The protocol is intended to be shortened and adapted depending on needs but can be a useful tool for considering PIQ within programs or conducting related research.

15 Definition from page 3 of Domitrovich, C. E., Bradshaw, C. P., Poduska, J. M., Hoagwood, K., Buckley, J. A., Olin, S., ... & Ialongo, N. S. (2008). Maximizing the implementation quality of evidence-based preventive interventions in schools: A conceptual framework. Advances in school mental health promotion, 1(3), 6-28.

16 Ibid.

17 Hill, H. C., & Erickson, A. (2019). Using implementation fidelity to aid in interpreting program impacts: A brief review. *Educational Researcher,* 48(9), 590–598. https://doi.org/10.3102/0013189X19891436; Abry, T., Hulleman, C. S., & Rimm-Kaufman, S. E. (2015). Using indices of fidelity to intervention core components to identify program active ingredients. *American Journal of Evaluation,* 36(3), 320–338. https://doi.org/10.1177/1098214014557009; Quinn, D. M., & Kim, J. S. (2017). Scaffolding fidelity and adaptation in educational program implementation: Experimental evidence from a literacy intervention. *American Educational Research Journal,* 54(6), 1187-1220.; Harn, B., Parisi, D., & Stoolmiller, M. (2013). Balancing fidelity with flexibility and fit: What do we really know about fidelity of implementation in schools? Exceptional Children, 79(3), 181–193. https://doi.org/10.1177/001440291307900204; For an example in EiE context see: Morton, M. H., & Montgomery, P. (2012). Empowerment-based non-formal education for Arab youth: A pilot randomized trial. *Children and Youth Services Review,* 34(2), 417-425.

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21 Ibid.

22   In most programs a log frame and MEAL plan are then used to specify the indicators, sources, and methods of data collection; but the underlying logic and justification for such should be linked to the program's Theory of Change.

23   Foreign, Commonwealth & Development Office (FCDO), formerly known as Department for International Development (DFID).

24   Lawday, A. and B. Kindler. 2021. Meal Model and Guide: Humanitarian Global Service Actors. East Sussex, United Kingdom: Itad Ltd. Crawford, P., & Bryce, P. (2003).; Liket et al. (2014); Bach-Mortenson et al. (2018).

25   Crawford, P., & Bryce, P. (2003). Project monitoring and evaluation: a method for enhancing the efficiency and effectiveness of aid project implementation. International Journal of Project Management, 21(5), 363-373. doi:https://doi.org/10.1016/S0263-7863(02)00060-1

26   Data process stages are outlined in the IRC MEAL Framework from the MEAL Handbook.

27   This guide focuses on the elements of a MEAL system that are most relevant for ensuring use for program improvement. It is not a comprehensive MEAL guide. For additional guidance on designing MEAL systems see IRC's MEAL Handbook, the Save the Children EiE toolkit section on MEAL and linked resources (pp. 187-189), and USAID's toolkits on Monitoring and Evaluation.

28   Useful resources include the Global Education Cluster guidance on needs assessments and the UNICEF training on EiE needs assessments.

29   See also the resource on MEAL design from INTRAC, USAID, and Itad.

30   Engage program and technical teams to ensure collection of useful data or supporting program team in converting their routine project activities into MEAL data.

31   However, more strategic course-corrections that are less frequent will require cross-cutting data analysis and a broader review by managerial staff. For example, strategic changes made after a learning-focused midterm evaluation.

32   Patton, M.Q. (2008).; Connell, J. P., & Kubisch, A. C. (n.d.).; Brown, A. (2016).

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34   Buckner, E., Shephard, D., & Smiley, A. (2022).; Mednick, S. (n.d.). 9 ways to create a more evidence-based humanitarian response.

35   Walton, R., Mays, R., & Haselkorn, M.P. (2016). How humanitarian culture informs change adoption: A case study of humanitarian logistics. Advances in Managing Humanitarian Operations. C. W. Zobel, N. Altay, M. P. Haselkorn, (Eds.). Chapter 7, pp. 135-158.

36   Ramirez, R., Kora, G., & Shephard, D. (2015).

37   If outsourcing is done, ensure that the external consultant has experience with facilitating the use of data for project-decision making (for example, someone with experience in Design Experiments, Utilization Focused Evaluation, or Developmental Evaluation).

38   While these stages can and should be iterative with learning from data ongoing throughout the project and feeding back into redesign, replanning, and shifts in implementation as discussed throughout this framework, we focus here briefly on the fourth stage as learning at project closure.

39   Squire, V. (n.d.). Data and displacement: Assessing the practical and ethical implications of data-driven humanitarianism for internally displaced persons in camp-like settings.

40   Haak, E., Ubacht, J., Van Den Homberg, M., Cunningham, S., & Van Den Walle, B. (2018). A framework for strengthening data ecosystems to serve humanitarian purposes. ACM.

41   As this framework is focused on learning from data to improve program implementation quality throughout the life of the program, we do not include any specific focus on project closure.

42   Many dashboards quickly become outdated and unused without regular updates, capacity strengthening, and facilitated use.

43   A variety of data sources will improve your ability to detect, triangulate, and explain unexpected challenges or opportunities.

44   Some projects advocate for program staff to collect data for cost-efficiency and because program staff are best able to recognize quality implementation. In this case, MEAL staff either have to be trained in tech areas or the tech team has to be trained to collect data. Other programs advocate for the opposite due to the fact that data collection takes staff away from primary duties– often training and supporting implementation– and the data that is collected by an implementer may not be as objective. MEAL folks either have to be trained in these tech areas or the tech team has to be trained to collect data.

45   This latter point is related to the importance of cultivating a culture of learning.

46   Some helpful resources include guidance on conducting education needs assessments from the Global Education Cluster; guidance on data collection from the Joint IDP Profiling Service, who also offer support and training; a short video from Emory University on data collection in emergencies (from a health perspective but with implications for other clusters). A short overview of data collection along with linked resources can be found at INTRAC.

47   For quantitative data analysts, look for expertise with basic software such as Excel or more advanced analysis software such as R, Stata, MatLab, SAS, or SPSS. For qualitative data analysts, look for expertise with software such as Dedoose, NVivo, or atlas.ti. Consider reviewing job descriptions of other vacancy advertisements to see what skills are currently requested for similar tasks. Consider the skills most likely to be found in your program context to avoid designing job descriptions that only attract external, international applicants.

48   See for example https://www.vizforsocialgood.com/.

49   Bach-Mortensen, A. M., Lange, B., & Montgomery, P. (2018).; Mthethwa, R. M., & Jili, N. N. (2016). Challenges in implementing monitoring and evaluation (M&E): The case of the Mfolozi Municipality. African Journal of Public Affairs, 9, 102-113.

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55   Ramalingam, B. and Mitchell, J. (2022). Learning to change: The case for systemic learning strategies in the humanitarian sector. London: ODI/ALNAP.

56   Waller, D. (2020).

57   INTRAC. (2018).

58   USAID. (2022).