

Theory-Based Evaluation

Theory-based evaluation (TBE) explains, explores, and analyzes the how and why of a project or program's success or failure based on the initiative's theory of change (ToC) or logic model. This approach to evaluation is intended to validate the assumptions of the ToC by testing the changes resulting from the intervention. This edition of Co-Praxis synthesizes key concepts, methodological considerations, and challenges of conducting TBE.

JGG Experience

JGG has observed an increase in requests for TBE in recent years. Various JGG teams have applied this conceptual approach in situations where projects or programs did not develop a ToC to guide implementation and other initiatives where a ToC had been designed, although often not in a participatory way or with empirical evidence to guide assumption and results. In recent post-consultancy reflections, our network consultants expressed a desire to learn more about TBE, given that this evaluation approach requires significant effort and analytical skill to reconstruct a ToC and test the plausibility and feasibility of its logic. This Co-Praxis seeks to provide more practical knowledge and guidance for the application of TBE, resulting from our internal reflections.

KEY DOCUMENTS REVIEWED

Belcher, Brian M., Claus, R., & Davel, R. a. 2019. [Linking transdisciplinary research characteristics and quality to effectiveness: A comparative analysis of five research-for-development projects](#). ELSEVIER.

Birckmayer, Johanna D and Hirschon Weiss, Carol. 2000. [Theory-Based Evaluation in practice: What do we learn?](#) SAGE Journals.

Brouselle, Astrid. 2018. [Theory-based evaluations: Framing the existence of a new theory in evaluation and the rise of the 5th generation](#). SAGE Journals.

Carter, Becky. 2012. [Helpdesk Research Report: Theory-based evaluation approach](#). Governance and Social Development Resource Centre.

INTRAC. 2017. [Theory-Based Evaluation](#).

Pokorski, Jacek., Popis, Zuzanna and Wyszynska, Teresa. 2017. [Theory-based evaluation in complex environments](#). Polish Agency for Enterprise Development. Chapter 2,5 and 9.

Treasury Board of Canada Secretariat. 2021. [Theory-Based Approaches to Evaluation: Concepts and Practices](#).

White, Howard. 2010. [Theory-Based Impact Evaluation: Principles and Practice](#). Governance and Social Development Resource Centre.

General Description

TBE is based in two elements: **conceptual and empirical**. The conceptual element involves developing a ToC to guide the implementation and evaluation of an intervention. TBE requires a ToC or logic model to understand the inputs, outputs and outcomes and the relation between them. The ToC is a relevant component to conduct a TBE, therefore it needs to be plausible, achievable, and verifiable. ToCs can be represented in a graphical form or linear model (eg. flow charts, critical pathways, causal maps, outcome maps, etc.). The empirical element of TBE refers to the collection of evidence to test the ToC and determine if and how the intervention produced changes, both expected and unexpected. Several articles suggest TBE goes beyond the black box theory by opening the box to understand the *why, how, when* and *who* of the intervention.

When evaluating the logic model or ToC, it may be necessary to differentiate between the assessment of the **program theory** (intervention concept) and the **theory of action** (program implementation). This differentiation helps evaluators to accurately assess the perspectives from the diverse stakeholders involved in a project or programme.

When and why to use

All articles reviewed mention that TBE can be used alongside almost any other evaluation approach (e.g., impact evaluation, case-based evaluation, and realistic evaluation). TBE is well-suited for assessing complex, multifaceted, and multi-level interventions but especially programs that envision behavioural changes in their outcomes (e.g., public health initiatives, crime prevention programming with perpetrators, including youth in conflict with the law, and equity, diversity, and inclusion initiatives). TBE is used to inform decision making and to understand more accurately what works, or not, with regard to the implementation of the ToC, and whether or not an intervention should be adjusted or repeated. Therefore, both formative and summative evaluations benefit from TBE. Furthermore, TBE facilitates the reconstruction of the cause-effect relation between inputs and expected outcomes in a ToC.

Methodological Considerations

Methodological neutrality. TBE is methodologically neutral, which means it does not require any specific method. Nevertheless, TBE typically is implemented using mixed methods and participatory techniques; the selection of specific methods depends on the complexity and scale of the intervention.

Measuring behavioural change. Most of the resources reviewed highlight contribution analysis and realistic evaluation as approaches that allow evaluators to identify and explore causal links between behavioural changes and specific interventions.

Contextual Analysis. TBE helps the evaluators understand transformational relations between the intervention and outcomes, thus the identification of key contextual or organizational factors influencing the changes observed is an important aspect of TBE. Contextual factors or conditions need to be explicitly identified or represented in the assumptions and conditions that form part of the ToC of the intervention so that they can be assessed and analyzed as contributing factors in the ToC logic.

Main Steps. There are certain steps common in all of the articles reviewed: 1) Reviewing/developing a ToC or logic model, including the identification of assumptions and risks, 2) Data collection at the different levels of the ToC, 3) Analysis of evidence (review the plausibility and feasibility of the change pathway; discount alternative theories – counterfactual analysis), and 4) Conclusions related to the validity of the ToC and the program's contributions and recommendations. The resources reviewed suggest methods, techniques, and analytical approaches to use in conjunction with a TBE. See the following table for more detailed information.

Step	Approaches, Methods, or Techniques to Consider
Review or develop a theory of change in the evaluation planning stage (inception)	<ul style="list-style-type: none"> Comprehensive review of program documents and empirical research to provide sufficient information to critique the existing ToC or to design a ToC, including preliminary context analysis. Visual mapping. Narrative ToC (if this occurs, then this will result). Clarify elements and levels of change of the ToC to be evaluated. Logic analysis: test the plausibility of the programme theory. Weakness and strengths of the program.
Prepare for contribution analysis	<ul style="list-style-type: none"> Identify the attribution problem in the ToC and prepare contribution questions, (e.g., Why has the result occurred? What role did the intervention play?) Prepare to gather information related to the contribution story (e.g., Surveys, field visits, administrative data, focus groups, etc.). Ensure data is collected on any external factors influencing results. Consider the possibility of using a counterfactual control group.
Collect data	<ul style="list-style-type: none"> Gather evidence of all aspects of ToC, including each level of change using mixed methods (quantitative and qualitative). When gathering evidence of behavioural change, outcome harvesting is suggested, including the identification of unexpected and negative changes. Gather information of contextual factors or conditions that may have influenced the change. Gather evidence related to the assumptions and risks identified in the ToC. Conduct an initial review of the data to draft a contribution story and performance story; gather additional data, if necessary.
Analyze evidence	<ul style="list-style-type: none"> Explore the links between changes at the different levels of the ToC to validate the assumptions and confirm or reject the plausibility and feasibility of the ToC. Consider the consistency between the ToC and implementation strategies. Consider counterfactual comparisons (what would have happened without the intervention). Complete the contribution analysis: assess evidence of the effects and context to understand the program's contribution.
Recommendations	<ul style="list-style-type: none"> Based on the analysis, evaluators recommend if the ToC needs to be re-constructed or modified to achieve the expected changes.

Challenges

Weak or non-existent ToC. Birckmayer notes that a program ToC may not be grounded in empirical research and practice, thus significant time is required to query and adjust the ToC in the planning phase. Other authors note that a poorly designed intervention without a ToC may not be suitable for a TBE if the evaluators are unable or do not have time to formulate a ToC within the evaluation planning phase.

Complex and resource intense. All articles reviewed explain that TBE is challenging in terms of time and resources, especially when an intervention does not have an explicit ToC or logic model. This is because the inception phase requires more time to research and construct a ToC or the intervention logic. TBE also requires a significant amount of data, time for data analysis, and consequentially, more resources for the evaluators.

Blended approaches are methodologically challenging. As mentioned, TBE can apply multiple theoretical and methodological approaches (e.g., contribution analysis, realistic evaluation, developmental evaluation). Evaluators are challenged to merge these different approaches within TBE, given that each approach has a unique focus but with similar methodological steps. Evaluators may experience difficulty selecting and blending approaches best suited to the assessment of a particular intervention.

JGG Reflections

JGG network consultants from Bolivia, Canada, Colombia, Mexico, Turkey, and the United Kingdom shared their experience of implementing a TBE approach during evaluations.

Limited empirical evidence used for ToC. JGG has found that program ToCs designed by development actors are often not based on empirical academic research or practice-based foundations (e.g., through internal diagnostics and assessments). Furthermore, the time and level of effort assigned to the inception phase of a TBE is often limited, making it difficult for evaluators to research academic and practice-based literature to support the behavioural change assumptions in a ToC.

Complex evaluation matrix. Given the fact a TBE involves testing the plausibility of the logic in the ToC and the feasibility of achieving the changes in the context and with the available resources, JGG evaluators have found that a TBE evaluation matrix requires sufficiently detailed and comprehensive questions and indicators to fully validate and test the ToC. At the same time an evaluation matrix should allow evaluators to capture assumptions or changes not identified in the ToC.

Highly conceptual approach. TBE is a conceptual approach that may be difficult to apply in practice and each evaluator may understand the program theory differently. JGG has found that evaluators with subject matter expertise are better suited to assess the different levels of change and the assumptions in a ToC.

Participatory identification of changes and analysis in the local context. JGG has found that workshops with implementers and key partners at the beginning of the data collection phase aid in the identification of actual outcomes (using outcome harvesting or most significant change methods). Furthermore, key stakeholders are well placed to discuss the conditions and other factors that contributed to, or impeded, changes. Subsequent data collection with other stakeholders can then validate or discount the changes and contextual factors.

Enhanced learning opportunities in TBE. Although each evaluation process is a learning moment for both the evaluators and the program implementers, TBE inherently encourages learning due to the intensive and combined use of data collection and analysis. JGG has found that this type of empirical research in a TBE lends itself to participatory methods such as facilitated dialogue and reflection at each stage of the evaluation and permits iterative learning throughout the process.

Methods to facilitate analysis in TBE. JGG agrees with the literature reviewed above that a variety of methods, especially participatory methods, are important in TBE. Additionally, JGG consultants suggest evaluators design data collection tools and methods that contribute to the analytical elements that are central to TBE. Suggested methods to facilitate analysis include deductive methods to understand *what* and *who*, inductive methods to understand possible outcomes, and historical mapping or storytelling to understand the sequence of action and results in the organizational context. This historical analysis is especially helpful when the evaluation covers a program or intervention that has been implemented over a longer duration (e.g., ten or more years).

Application of TBE is challenging for certain type of projects. As noted above, TBE is especially effective in behavioural oriented initiatives, such as health and certain types of governance programming. JGG has found that some development interventions, such as media and communication projects or political advocacy programs do not easily lend themselves to TBE. This is because empirical evidence to guide a communication or advocacy ToC is not always available. In these types of projects, it is important to integrate pre and post assessments and other forms of evaluation in the program implementation plan or theory of action.

A visual ToC is helpful for TBE. JGG has found that when reviewing or constructing a ToC, it is important to create graphic representations. In JGG's experience, programs often have a narrative ToC and/or a logic model but lack a visual graphic to illustrate the sequence of changes and assumptions. JGG evaluators have found that when they prepare a visual representation of the ToC, it is a very point of reference when facilitating discussions with program implementers and stakeholders during a TBE.

OTHER RESOURCES

Better Evaluation. n/d. [Contribution Analysis](#).

Better Evaluation. n/d. [Realistic Evaluation](#).

Better Evaluation. n/d. [Theory of Change](#).

INTRAC. 2017. [Realist Evaluation](#).

INTRAC. 2017. [Outcome Harvesting](#).

CONTRIBUTORS: JGG would like to thank University of Ottawa Community Service Learning intern, Hailey Podlatis, for her initial research and synthesis of key literature on TBE, further work by Acadia University intern Megan Cyr, and systematization and analysis by JGG junior consultant Ana Laura Zarco. JGG colleagues Carmen Beatriz Ruiz, José Miguel López, Paola Jiménez, Zeynep Baser, Jessica Romo, and Kimberly Inksater shared experiences and reflections.



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