Evaluation

Evaluation is often thought of as a last step after the completion of a project. But in TDR projects, thinking about evaluation starts much earlier in the process and has some core aspects that set it apart from evaluating conventional disciplinary research projects. Key considerations for evaluating TDR projects can be grouped under the following questions:

- What should be evaluated in transdisciplinary projects, and how and when should evaluation occur?
- How does evaluation of TDR differ from other types of projects?
- Who should be involved in evaluating TDR projects?

What types of evaluation might be relevant to TDR projects?

One may distinguish three general classes of evaluation, each of which can have its place in the context of TDR, and each of which can involve a number of different foci and methods (see Evaluation Approaches: https://www.betterevaluation.org/methods-approaches/approaches):

- *Formative evaluation* – Most appropriate in contexts that are already fairly well understood, where substantial knowledge already exists, but where a situational, baseline assessment is critical to ascertain how to improve on a model or approach for addressing a societal problem. The co-design process can often be usefully enhanced by a formative evaluation, and thus would be conducted at the start of a project.
- *Summative evaluation* – Most appropriate in contexts that are fairly well understood where a target project was undertaken to improve on a prior model or approach. Summative evaluation aims to understand what a well-defined project achieved vis-à-vis the needed improvements, and thus would be conducted at the end of a project.
- *Developmental evaluation* – Most appropriate in complex, uncertain, changing contexts, where new approaches or solutions are sought. Projects are undertaken to develop innovations that can address problems in such challenging contexts. Developmental evaluation is an ongoing and integral form of assessing and learning all along the way as the project is being formed and implemented so as to rapidly adjust project approaches, methods, participants, engagement, and outputs and outcomes, as needed.

Most commonly, evaluations of research projects fall into the summative evaluation bin. They aim at providing a summative picture of what a research project achieved (or didn't achieve). But many TDR projects are conducted amid complex, changing, and often uncertain societal contexts. In such complex, innovative projects, the summative-evaluation approach can be too limited, as it does not adequately account for what happened in the project, and how it informed societal decisions or contributed to outcomes.

Given the wide range of potential outputs, outcomes, and ways to impact, it is important to get a broad picture when evaluating TDR projects. This means being aware of, and assessing, the results and impacts that were initially intended (see "Theory of change"), but also scanning for outcomes (good or bad) that may be unexpected but are emerging. Many of them will not be immediately apparent, as it takes time for societal impacts to unfold. And many of these outcomes may not be visible to the researcher directly, unless dedicated efforts are made to inquire about and investigate the longer-term outcomes. Thus, even in the evaluation, it is important to collaborate with societal partners.

This discussion alone makes it apparent that the usual evaluation approach and metrics of research projects do not suffice. They only cover limited aspects of TDR projects and are often limited to scientific outputs. In TDR projects, participants are also interested sustained engagement throughout; the relationships formed or changed among those involved; the perceived credibility, relevance, and legitimacy of produced information and insights; and the effects that emerge outside the academic realm, i.e., the societal impacts.

While such lists of metrics offer useful starting points, it is important to ascertain what all involved partners want to learn from the evaluation. They can weigh in on how, how often, when, and what to evaluate — much in the same way the rest of the project was co-designed. This ensures that all involved will learn what they are most interested in, and the transparency further builds trust, fosters sustained relationships, and improves the process of TDR over time.

Who should be involved in evaluating TDR projects?

Who to involve in the evaluation is a matter of coherence. Typically, many actors are involved in a transdisciplinary project: researchers from multiple disciplines, engagement facilitators, various societal actors, and probably also funders. The evaluation should reflect that same diversity.

Two levels of choice are important here:

- *Whose perspectives should be consulted in the evaluation?*
  Ideally, all perspectives should be included, because the project team, partners, societal actors, and funders all play an important role. They may have similar or diverging views of the project – views that are always partial, as not everyone is involved in all aspects. Moreover, everyone has different needs for what they want to learn from the evaluation. They may also apply different criteria to measure its success. To be an appropriate evaluation of a TDR project, evaluation thus should be inclusive and participative.
- *Who should conduct the evaluation?*
  The question of who should design and conduct the evaluation is an important one that must be answered in the context of any specific TDR project. If there is good trust among partners, someone from the research team may be well-positioned to undertake the evaluation (think of it much like a TDR project within your project). If trust is less well developed, or if it is critical to convey accountability to funders, sponsors, or societal partners, an independent, external evaluator may be better positioned to conduct the evaluation.

There are pros and cons and important trade-offs involved in these choices. For example, an external evaluator may require additional funding, may not know the project context as well as those involved, and obviously was not involved in the conduct of the project; but project partners may feel more comfortable expressing their views freely (if asked confidentially), and thus responses may be more honest and more useful. For that same reason, funders often demand independent, external evaluations.

In either case, the foci, contents, approach, and most relevant indicators and metrics should be co-designed with all or key representatives of the project, and results must be communicated and discussed transparently.

Further reading:

A growing body of literature addresses the questions of what to track and evaluate in TDR projects:

- Belcher, Brian, Claus, Rachel, Davel, Rachel, Jones, Stephanie, Pinto, Daniela. 2021. A tool for transdisciplinary research planning and evaluation. Integration and Implementation Insights. September 2, 2021.
- Meadow, M. G. 2021. Planning Evaluating Societal Impacts Climate Change Research Projects: Guidebook Natural Physical Scientists Looking Make Difference. Tucson, AZ.
- Wall, Tamara U., Elizabeth McNie, and Gregg M. Garfin. 2017. Use inspired Science: Making Science Usable by and Useful to Decision Makers. *Frontiers in Ecology and the Environment* 15 (10): 551–59.

These guides and papers offer specific categories of indicators and metrics for inputs, processes, outputs, outcomes, and impacts that are relevant both to science and society. Additional resources can be found in the Shape-ID Toolkit, available at: https://www.shapeidtoolkit.eu/guided-pathways/evaluate-inter-and-trans-disciplinary-research/