



Akademien der Wissenschaften Schweiz
Académies suisses des sciences
Accademie svizzere delle scienze
Academias svizas da las ciencias
Swiss Academies of Arts and Sciences

td-net
Network for Transdisciplinary Research

Framing Evaluation

Christian Pohl

Swiss Academies of Arts and Sciences
and ETH Zurich

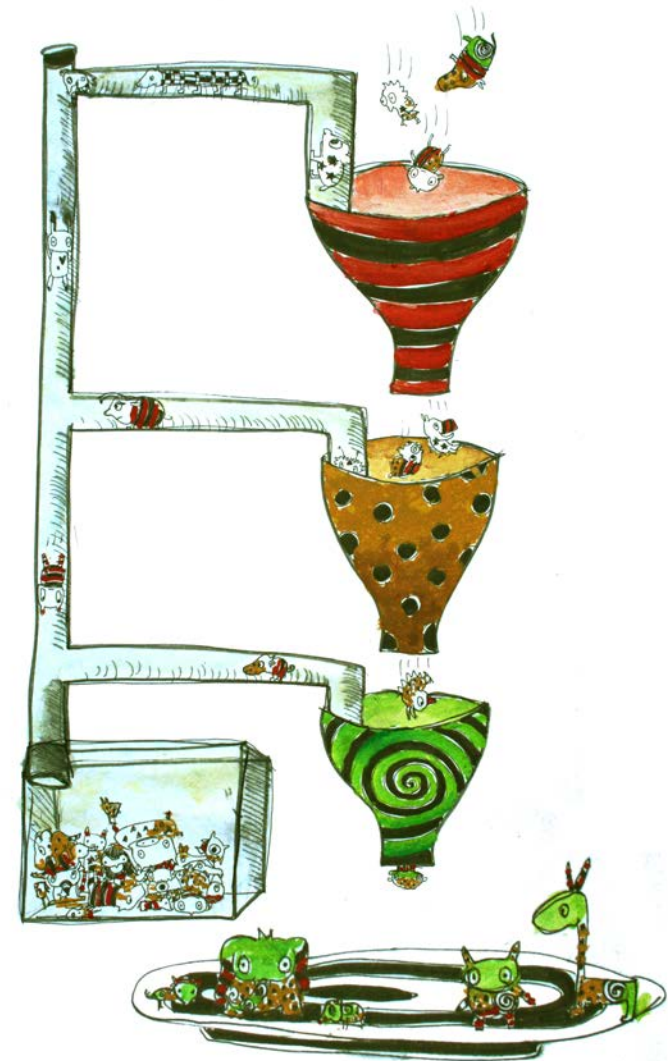


Illustration by Jeanine Reutemann

Background

Questions to evaluate inter- and transdisciplinary research proposals

Proposed by td-net

Christian Pohl, Pasqualina Perrig-Chiello, Beat Butz, Gertrude Hirsch Hadorn, Dominique Joye, Roderick Lawrence, Michael Nentwich, Theres Paulsen, Manuela Rossini, Bernhard Truffer, Doris Wastl-Walter, Urs Wiesmann, Jakob Zinsstag

(td-net working paper 2010)

To evaluate ITR requires a concept of good ITR

«When the cook tastes the soup, that's formative evaluation; when the guest tastes it, that's summative evaluation»

(Robert Stake as quoted by Scriven 1991)

There is more than one concept of good ITR

Table 1

Three concepts of transdisciplinarity (A–C) as combinations of four features [3, p. 76].

Transdisciplinarity according to concept	A	B	C
Features of transdisciplinarity			
Relating to socially relevant issues			
Transcending and integrating disciplinary paradigms			
Participatory research			
Searching for a unity of knowledge			

(Pohl 2011)

ITR is a means to an end (and not an end in itself)


“Interdisciplinary research (IDR) is a mode of research by teams of individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge **to advance fundamental understanding** or **to solve problems** whose solutions are beyond of the scope of a single discipline or area of research practice.”

(National Academy of Sciences et al. 2005: 188)



We identified three main purposes of ITR

1. Fundamental understanding
2. Problem solving

Julie Klein uses the term “critical interdisciplinarity” for an attitude that interrogates “the dominant structures of knowledge and education with the aim of transforming them, raising questions of value and purpose” (Klein, 2010). This purpose is also at the root of C.P. Snow’s two cultures (Snow 1964) 

3. Reflection-in-action (Schön 1983)

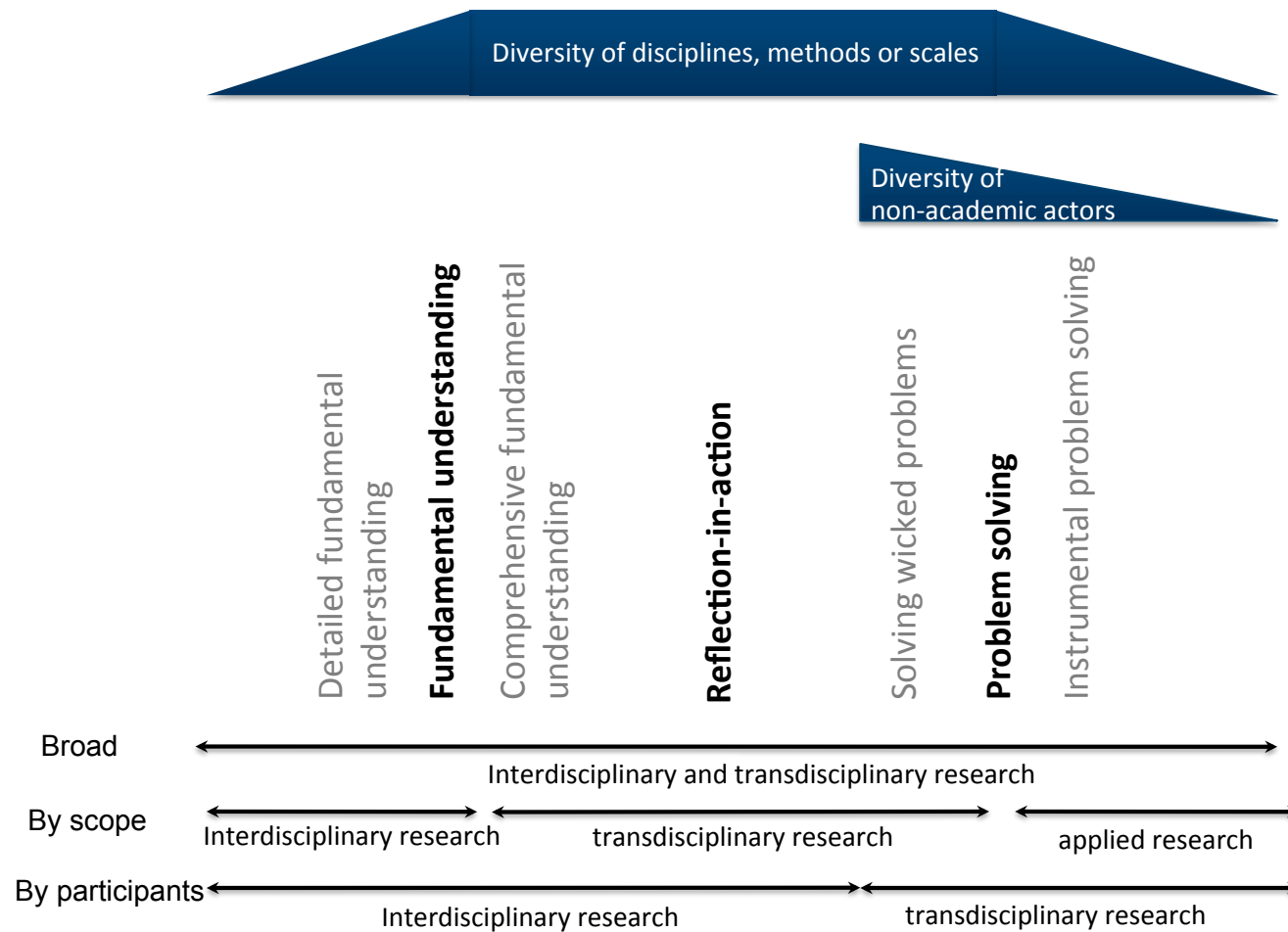
Within each purpose...

... there might be a difference in

- the **diversity** of disciplines, stakeholders, methods and scales (molecular, cellular, individual, social, global) included and
- the degree or **intensity of integration**.

(Stokols et al., 2003; Mitrany and Stokols, 2005)

Purposes of inter- and transdisciplinary research



First challenges of evaluating ITR:

- ➡ To distinguish different purposes and
- ➡ to evaluate a project in relation to the right purpose



(Jeanine Reutemann)

References

- Klein, J. T. (2010). A taxonomy of interdisciplinarity. In *The Oxford Handbook of Interdisciplinarity*, 15-30 (Eds R. Frodeman, J. Thompson Klein and C. Mitcham). Oxford University Press.
- Mitrany, M. & Stokols, D. (2005). Gauging the transdisciplinary qualities and outcomes of doctoral training programs. *Journal of Planning Education and Research* 24(4): 437- 449.
- NAS/NAE/IOM (2005). *Facilitating Interdisciplinary Research*. Washington: National Academy of Sciences, National Academy of Engineering, Institute of Medicine, The National Academies Press
- Pohl, C. (2011). What is progress in transdisciplinary research? *Futures*, 43, 618-626.
- Schön, D. D. (1983). *The Reflective Practitioner - How Professionals Think in Action*. Aldershot, Hunts: Ashgate.
- Scriven, M. (1991). Beyond formative and summative evaluation. In G. W. McLaughlin & D. C. Phillips (Eds.), *Evaluation and education: At quarter century*. Chicago, IL: University of Chicago Press, pp. 19-64.
- Snow, C. P. (1964). *The two cultures: and a second look – an expanded version of the two cultures and the scientific revolution*. Cambridge: University Press.
- Stokols, D., Fuqua, J., Gress, J., Harvey, R., Phillips, K., Baezconde-Garbanati, L., Unger, J., Palmer, P., Clark, M., Colby, S., Morgan, G. & Trochim, W. (2003). Evaluating transdisciplinary science. *Nicotine Tob Res* 5(Suppl 1): 21-39.