

Transdisciplinary schools of thought

Across the globe there are different schools of thought on what is meant by “transdisciplinarity,” what TD encompasses, and how to approach it. This design guide was written to bridge these differences by finding common ground among them. And while it does not go into depth on any particular school of thought, the authors recognize the differences among them and do not intend to brush over them. The table below gives a rough outline of three different traditions.

Schools	Transdiscipline	Transdisciplinary research for sustainability	Participatory action research (liberatory approaches)	Sustainability science ¹
Approach & scope	Theoretical exploration emphasizing epistemic differences among types of knowledges and associated challenges	Methodological exploration emphasizing solutions toward sustainability through the weaving of different types of knowledges	Ethical and political transgressive action research from the global South emphasizing ways to address power relations and colonial legacies	Solutions- and process- (methodologically) focused collaborative research to address pressing social, health, and sustainability challenges
Regions	Europe and Latin America	Europe	South Asia, Latin America, and Africa	North America, Australia
Key authors	Piaget (1972), Morin (2008), Nicolescu (2002)	Klein et al. (2014), Haddorn, et al. (2008), Lang, et al. (2012), Nowotny, et al. (2001)	Fals Borda (1970), Jahn (2008), van Breda and Swilling (2019)	Cash, et al. (2003), Jasanoff (2004), Clark, et al. (2016), Stokols (2006), van Kerkhoff (2014), Bammer (2005)

What are the key differences among ‘TD’ schools of thought?

Transdiscipline is a vast concept that includes different frameworks, approaches, and goals. The term “transdiscipline” was first coined by Piaget (1972), who explored the pedagogical implications of going beyond disciplines to the interface between them. This led to the Nicolescu school (1994) that explores how different disciplines approach knowledge generation, as well as the opportunities for new ways of doing so at the transdisciplinary frontier. Inquiries on how to best address societal problems seeded the Zurich school (2001) that entails navigating from theory to practice and back, as well as weaving scientific and non-scientific knowledges.

While most of the above developments were centered in Europe, political processes in Southeast Asia, Africa, and Latin America aimed at addressing the profound inequalities derived from colonial and postcolonial processes led to several bottom-up approaches to transdiscipline. For instance, participatory action research (proposed by Fals Borda in 1992) in Latin America emphasizes the need for ethical-political commitments to deconstruct the structural foundations of injustice, as well as reciprocal interactions that honor different ways of being, feeling, and thinking. In Africa, transdisciplinary design research (coined by Breda in 2019) identified through action-guiding that includes focusing on triggering social change, innovating for new problems, and iterative learning.

¹ Includes many other descriptors, such as translational, collaborative, engaged research, co-produced science, or Integration and implementation science



Transdisciplinary approaches are practiced in North America and Australia under a variety of labels, including collaborative or team science, engaged research, sustainability science, translational science, or co-production (in a broad sense). This diversity roots in their emergence in diverse applied fields, but also points to the lack of regional integration across these disciplinary origins into a unifying school of thought. Transdisciplinarity in these regions emerged out of a reaction to “pure” science that is relatively disconnected from society. In more recent decades, a movement has emerged whose emphasis is on making science relevant to society and on solving complex problems, rather than developing methodological or theoretical cohesion.

Further reading:

- Breda, J., and M. Swilling. 2019. *Guiding Logics Principles Designing Emergent Transdisciplinary Research Processes: Learning Experiences Reflections from Transdisciplinary Urban Case Study Enkanini Informal Settlement*. South Africa.
- Gibbs, Paul, and Alison Beavis. 2020. *Contemporary Thinking Transdisciplinary Knowledge*. Springer International Publishing.
- Streck, Danilo R. 2021. [Transdisciplinarity as a Decolonizing Research Practice](#). *Diálogos Latinoamericanos* 29 (March): 88–100.