SHAPE-ID
Shaping interdisciplinary practices in Europe

Pathways to Interdisciplinary and Transdisciplinary Research: the SHAPE-ID Toolkit

Find tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

Improve inter- and transdisciplinary research skills

Abstract

As a researcher you will already be equipped with the skills needed to perform research within your discipline. If you are based in a university, you will also probably benefit from institutional research support and advice to help you conduct your research. Doing inter- and transdisciplinary research requires additional "meta-skills" such as leadership, communication, negotiation and integration.

This publication compiles resources collected as part of the SHAPE-ID project to support researchers, funders/policymakers, research organisations and societal partners in improving inter- and transdisciplinary research skills.

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Online source – SHAPE-ID Toolkit

This publication is an extract of the SHAPE-ID Toolkit. For a general overview, visit: 10.5281/zenodo.4743703.

The Toolkit provides tools and resources to make informed decisions about interdisciplinary and transdisciplinary research with the Arts, Humanities and Social Sciences, the Sciences, Technology, Engineering and Mathematics, and societal partners.

Contributors & Co-producers

The SHAPE-ID resource collection series is an artefact of collective wisdom. Some resources were generated by the SHAPE-ID team, but many were already available online and the toolkit acts as a gateway to locate them. The SHAPE-ID collection series is based on discussions with and inputs from the SHAPE-ID consortium members, namely Anna Buchner, Maureen Burgess, Bianca Vienni Baptista, Caitriona Curtis, Isabel Fletcher, Giorgia Galvini, Catherine Lyall, Maciej Maryl, Jane Ohlmeyer, Christian Pohl, Andrea Ricci, Carlo Sessa, Jack Spaapen, Sibylle Studer, Doireann Wallace, Piotr Wciślik, Keisha Taylor Wesselink, Declan Whelan-Curtin.

SHAPE-ID resource collection series

- Understand inter- and transdisciplinary research: 10.5281/zenodo.4743671
- Develop collaborative conditions: 10.5281/zenodo.4743673
- Co-create a research project: 10.5281/zenodo.4743675
- Fund collaborative research: 10.5281/zenodo.4743677
- Evaluate inter- and transdisciplinary research: 10.5281/zenodo.4743679
- Disseminate inter- and transdisciplinary research findings: 10.5281/zenodo.4743683
- Improve inter- and transdisciplinary research skills: 10.5281/zenodo.4743685
- Support collaborative researchers: 10.5281/zenodo.4743687
- Develop a career in inter- and transdisciplinary research: 10.5281/zenodo.4743689

Improve Research Skills

As a researcher you will already be equipped with the skills needed to perform research within your discipline. If you are based in a university, you will also probably benefit from institutional research support and advice to help you conduct your research. Doing inter- and transdisciplinary research requires additional "meta-skills" such as leadership, communication, negotiation and integration.

Resource highlights

- ❯ MOOC <u>Partnering for Change – Link Research to Societal Challenges</u>
- ❯ SHAPE-ID Top Ten Tips for writing an inter- and transdisciplinary research proposal: <u>10.5281/zenodo.4743693</u>
- ❯ SHAPE-ID webinar: <u>Professionalising Inter- and Transdisciplinary Research Expertise</u>

Subtopics

Access ID/TD training

Integrate different disciplines

Develop a collaborative funding proposal

Identify potential ID/TD tools and methods

Understand 'reflexivity'

Identify ID/TD leadership opportunities

Manage complex research projects

Resources per subtopics

Access ID/TD training ^

Under the coordination of the Swiss Academies of Arts and Sciences, this free online course (MOOC) on Transdisciplinary Research is offered to students and researchers from all backgrounds, policy makers and practitioners involved in seeking solutions for complex societal challenges.
VISIT SITE

This Open Access article describes a case study approach to learning about transdisciplinary research design.
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Integrate different disciplines ^

At the heart of inter- and transdisciplinary expertise lies the ability to integrate knowledge, not just across different disciplines but across institutional boundaries to enable researchers to forge working relationships with outside of academia. See also toolkit section **Why societal partners might want to take part in research.**

In the first of two paired blog posts, Julie Thompson Klein describes the fundamentals of what "integration" means.
VISIT SITE

And the second addresses how to do integration in the context of inter-and transdisciplinary research.
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In this blog, Matthias Bergmann and colleagues have collected 43 methods, from a number of transdisciplinary research projects dealing with a variety of research topics, to better understand how different types of expertise can be integrated.
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In this Open Access article Erik Fisher and colleagues develop a framework for comparing integrative methods and goals and locate these within the larger context of participatory research approaches that include, inter alia, scholarly engagement, ethical, legal, and social implications/aspects (ELSI/ELSA) research, team science, applied ethics, technology assessment, inter- and transdisciplinarity and public engagement.
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Net4Society have created a fact sheet on successful "SSH Integration" which highlights key issues and good practices to successfully integrate the social sciences and humanities in research projects funded under Horizon 2020.
VISIT SITE

Develop a collaborative funding proposal ^

If you are based in a university then your research office is likely to provide detailed guidance of writing a research proposal and applying for grant funding. For an overview of some of the key considerations when preparing a collaborative proposal see this short guide *Developing interdisciplinary research proposals* which includes a checklist of key aspects to consider.
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SHAPE-ID partner Isabel Fletcher has provided her top ten tips for writing collaborative research proposals.
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 See also **Evaluate inter- and trans-disciplinary research** in this toolkit.
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Identify potential ID/TD tools and methods ^

The td-net toolbox provides a wealth of methods and tools that specifically focus on jointly developing projects, conducting research and exploring ways to create impact in heterogeneous groups. These tools are particularly intended to help shape collaboration between academic researchers and other stakeholders.
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This is not simply about having the right tools for the job. Based on interviews with internationally recognised transdisciplinary researchers and practitioners, chosen from a diverse range of research and practice-based perspectives, Dena Fam and her co-authors discuss in this blog, some of the less tangible competences and dispositions required for skill in inter-and transdisciplinary research.
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Understand 'reflexivity' ^

In the natural sciences, the researcher is more typically regarded as a neutral presence in the research whereas in the social sciences, good practice requires the researcher to develop an awareness of their role in the research process. This is termed "reflexivity" and goes beyond the tenets of research integrity and avoiding misconduct to consider aspects such as the researcher's own values, beliefs and personal biases and how they might affect research outcomes (also termed "positionality").

In this Open Access article, two social scientists, Natasha Mauthner and Andrea Doucet, discuss not just the importance of *being* reflexive but discuss the difficulties, practicalities and methods of *doing* it.
READ PDF

The Swiss Academies Guidelines to conflict sensitive research includes a helpful series of questions to help researchers and others reflect on their perception and positioning.
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In this blogpost (also available in Spanish) Adriana Moreno Cely and colleagues describe the "circle of dialogue wisdom" methodological framework. This approach aims to address power imbalances within projects by using processes that develop multi-layered reflexivity and positionality.
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This open access book and accompanying video from Wageningen University is a practical guide to facilitating processes of reflection during multi-stakeholder partnerships.
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Identify ID/TD leadership opportunities ^

Depending on the size of the collaboration, an interdisciplinary project may require leadership at several levels. This briefing note introduces the difference between "active management" and "visionary leadership".
READ PDF

This short guide to leading interdisciplinary initiatives introduces core interdisciplinary leadership roles.
READ PDF

This short guide looks at some of the roles leaders can play in developing interdisciplinary strategies for research groups.
READ PDF

This Open Access article by Iain Gordon and colleagues describes how leaders of research organisations can provide an environment where inter-and transdisciplinary research can flourish.
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For a shorter version read this blog.
VISIT SITE

This Open Access article by Barth et al. describes initiatives for building capacity for trans-formational leadership and transdisciplinarity for early career researchers. VISIT SITE

In this i2S blogpost (also available in Arabic) Manal Affara describes six ways that facilitation skills can improve cross-disciplinary team leadership.
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These videos from the authors of the *Leading Large Transdisciplinary Projects Addressing Social-Ecological Systems* Primer provide insights into developing, managing, and completing large social-ecological systems projects. They present lessons learned and provide key advice for people writing proposals for transdisciplinary projects.
WATCH VIDEO

This Open Access article, also based on USDA-NIFA-funded research, explains how the success of very large, transdisciplinary projects can be facilitated by paying attention to the diversity of types of collaboration that inevitably occur within them.
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Manage complex research projects ^

Whether we call them project managers, assistant directors or interdisciplinary integrators, successful inter- and transdisciplinary projects and programmes require committed individuals to actively manage and co-ordinate them.

In this Open Access article, Gabriele Bammer and colleagues describe this essential but often overlooked expertise.
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This blog post describes the integrative work of a "liaison person" in public health projects and how to support it.
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This SHAPE-ID webinar addresses the rise of a new profession of so-called "integration experts" and how institutions can support the development of these important skillsets. You can access the audio and video recordings at this link.
WATCH VIDEO