

DARE (Diversity Approach to Research Evaluation)

Research
Briefing

Oct 2019



DARE (the Diversity Approach to Research Evaluation) is an approach for understanding collaboration. In particular, DARE provides tools that reveal how teams connect collaborators with different backgrounds and experience.

Differences between collaborators can make teamwork both rewarding and difficult. DARE enables the exploration of questions such as:

- Which types of differences are useful to analyse?
- How can we effectively analyse team-members' connections?

DARE focuses on the processes of research collaboration. The approach uses a combination of narratives, maps and indicators to create a rich understanding of collaboration as it happens.

The ways in which teams bridge their differences shapes the outcomes of the programmes and initiatives in which they work. DARE can be used to explore how these collaboration processes lead to outcomes.

Key contacts

Professor Michael Hopkins
Principal Investigator
m.m.hopkins@sussex.ac.uk

Dr Frederique Bone
Research Fellow
f.bone@sussex.ac.uk

Dr Joshua Moon
Research Fellow
j.r.moon@sussex.ac.uk

Hollie Rowland
Research Assistant
h.rowland@sussex.ac.uk

US
UNIVERSITY
OF SUSSEX

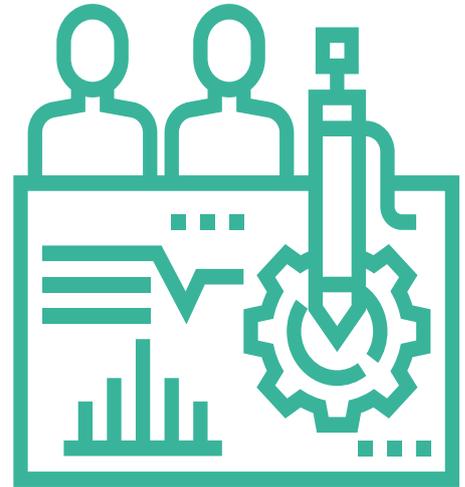
SPRU
SCIENCE POLICY
RESEARCH UNIT

www.sussex.ac.uk/spru/research/dare

follow us @SPRU_DARE

DARE Understands Collaboration Processes

Research is performed in increasingly larger and more complex teams. This raises challenges for those tasked to enable and assist researchers (e.g. research managers, funders, policy makers, and researchers themselves). Tools are needed to understand collaboration particularly in situations where outcomes are slow to emerge.



DARE provides a way to analyse research collaborations from the outset and over time.

This approach reveals the differences in background and experience between collaborators that can make teamwork both valuable and challenging, while providing **early insights** into how

teams work together.

DARE is a valuable approach because it supports the tracking of research as it happens and in doing so **prioritises processes over outputs**.

DARE Measures Diversity and Cohesiveness in Collaborations

Diversity

Diversity represents the differences between individuals observed in a range of dimensions.

Collaboration may be difficult or beneficial for a variety of reasons. For instance, communication may be hampered by different disciplinary backgrounds and geographical distances. However these **diversities may also foster creativity and problem solving**.

Potential difficulties are linked here to diversity, while cohesiveness represents the **effort to overcome these differences in pursuit of valued outcomes**.

DARE defines these notions of diversity and cohesiveness across different collaborator characteristics that we refer to as **diversity dimensions**. DARE offers a framework and a set of tools to study the interactions of individuals and the processes that support or inhibit them.

Diversity is analysed by grouping collaborators into categories based on diversity dimensions (including cognitive, geographic, institutional, social, and organisational) and mapping the

Cohesiveness

Cohesiveness represents how individuals connect across these differences (i.e. diversities).

distribution of individuals among these groups and the distances separating them.

DARE then **captures the interactions across boundaries** that have taken place within the collaboration, thereby characterising the cohesiveness of the team.

DARE Currently Maps Five Diversity Dimensions

Geographic refers to the physical distance between collaborators (as measured by travel time)



Social refers to the extent of familiarity in the relationship between collaborators



Cognitive refers to the disciplines in which collaborators work



Institutional refers to the norms, rules and values of collaborators' working environment



Organisational refers to extent to which hierarchical structures separate collaborators



In order to categorise and map team members, we apply the diversity indicator developed by Stirling (2007) and Ràfols (2014) to Boschma's (2005) five dimensions, shown in the graphic opposite.

These five dimensions **influence knowledge production.**

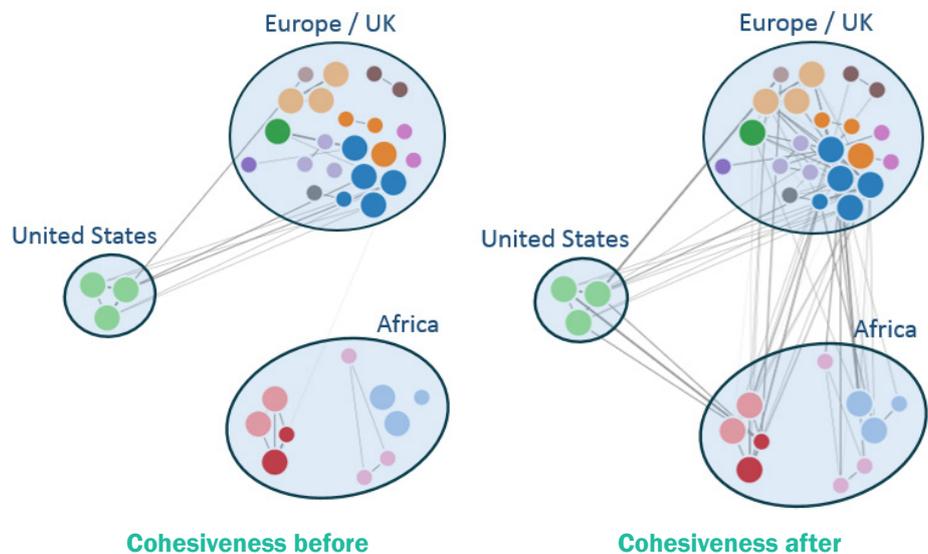
DARE enables analysis to explore how much a given initiative has helped bridge the identified diversity – i.e. how much interaction has been achieved between the team members.

The bridging effort between team members can be measured before, during, and after a given project, allowing a **dynamic record of collaboration** to be captured.

Example Map: Geographic Dimension

This example uses a geographic approach; this measures the physical distance between individuals to map the geographical breadth of the collaboration. The approach measures physical distance as the travel time (walking, public transport, plane, etc.) between two team members.

Circles: represent collaborators
 Size: represent their level of involvement
 Colour: represents the collaborators' organisation

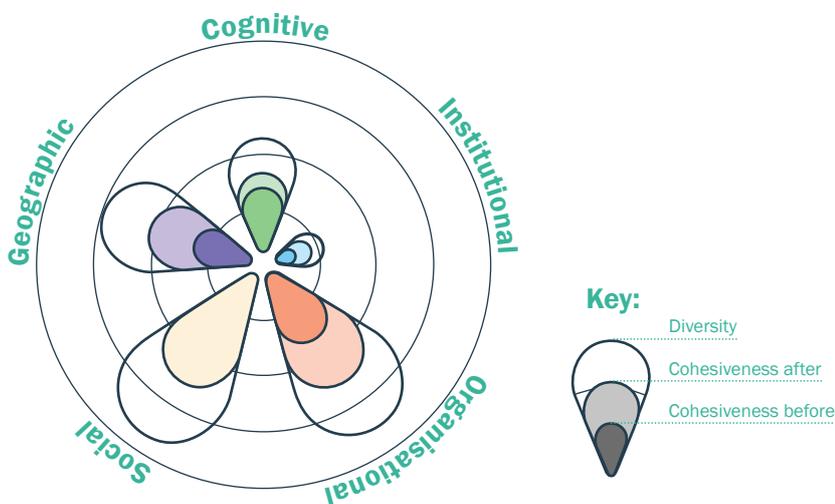


Uses

DARE can be used to show how a specific initiatives foster interactions between researchers from different backgrounds, or even stakeholders more broadly.

Through this approach, we can also show how the study of such interactions can be used to track the potential for generating socially beneficial impacts.

Below is a summary chart of all five diversity dimensions which shows how a given project has increased cohesiveness, or bridged differences, as a result of a research project.



DARE is a flexible approach that can be adapted for a range of purposes.

If you are interested in discussing the application of DARE please contact the team.

In partnership with/funded by:



Further reading

More information can be found in several publications:

- Bone, F. et al. (2017) User Guide to DARE: A Diversity Approach for Research Evaluation About this guide. London, United Kingdom. Available at: <https://bit.ly/2LRgr1Y> (Accessed: 10 December 2017).
- Stirling, Andy (2007) A general framework for analysing diversity in science, technology and society 4J. R. Soc. Interface <https://bit.ly/2LRgBX8>
- Rafols, I. & Meyer, M (2010) Diversity and network coherence as indicators of interdisciplinarity: case studies in bionanoscience, Scientometrics 82: 263. <https://bit.ly/2YvRnj3>
- Rafols I. (2014) Knowledge Integration and Diffusion: Measures and Mapping of Diversity and Coherence. In: Ding Y., Rousseau R., Wolfram D. (eds) Measuring Scholarly Impact. Springer, Cham
- Jordi Molas-Gallart, Pablo D'Este, Oscar Llopis, Ismael Rafols, Towards an alternative framework for the evaluation of translational research initiatives, Research Evaluation, Volume 25, Issue 3, July 2016, Pages 235–243, <https://bit.ly/3359NdN>
- Frédérique Bone, Michael M. Hopkins, Ismael Ràfols, Jordi Molas-Gallart, Puay Tang, Gail Davey and Antony M. Carr (2019). DARE to be Different? Applying Diversity Heuristics to the Analysis of Collaborative Research. SPRU Working Paper Series (SWPS), 2019-09: 1-31. ISSN 2057-6668. Available at: <https://bit.ly/2YyQNFh>

Contact

For more information, visit: sussex.ac.uk/spru/research/dare

Or tweet us: @SPRU_DARE

Or email us: dare@sussex.ac.uk



SPRU
SCIENCE POLICY
RESEARCH UNIT