VolkswagenStiftung

Transdisciplinarity

Transfer - science communication

Strategic guidelines of the Volkswagen Foundation

The Volkswagen Foundation's experience with transdisciplinarity - transfer - science communication

Science is part of society and interacts with it in many different ways. Throughout its 60-year history, the Volkswagen Foundation has repeatedly addressed the interaction between science and society in its funding activities and has achieved impact, for example, in an international context, for the next generation of scientists and at an institutional level:

- The implementation of research results in real-world applications played an important role in international funding. This meant that the funding recipients were able to intensify cooperation with other stakeholders in many areas, including regional funding in sub-Saharan Africa and Central Asia/Caucasus.
- Young scientists benefited from new career opportunities through funding at the academic and social interfaces, including in the funding initiatives "Research in Museums" and "Science and Professional Practice in Graduate Education".
- Since 2014, the foundation has increased its commitment to science communication and relaunched this in 2018 as an open programme for all grantees. Institutional funding in this area was finally realised with the programme announcement and subsequent funding of five science communication research centres in 2020.
- Building bridges between science and practice and testing them in various forms of cooperation was also the aim of other funding programmes at the beginning of the 21st century (future issues of society, science and data journalism, etc.). These led, among other things, to the establishment of funding for policy advice in the form of the Expert Council on Migration and Integration, which has since been included in the public funding programme.
- Cooperations with industry and the direct translation of research results are also called for in existing funding programmes, e.g. viral zoonoses.
- Questions of joint knowledge production between scientists and non-scientific stakeholders were first addressed in the "Arts and Science in Motion" programme call and recently in various calls for proposals for international cooperation projects ("Preventing Pandemics" and "Heritage and Change") and are currently being tested in the corresponding projects.

Challenges for research and science

Even if the questions of how the relationship between academia and other areas of society should be organised are not fundamentally new, the rapidly changing framework conditions mean that these questions are being asked with a new urgency. Here are a few examples:

During the COVID-19 pandemic, scientific findings have been picked up by the media more than ever before and have become part of the public debate. This applies not only to virology and other areas of medical research, but also to social science disciplines. The debates have also revealed different positions of scientists, which - as conveyed by the media - has in part contributed to the discrediting of science and the spread of "fake news".

Another example of the increased interaction between science and society is the discussion surrounding the freedom of speech and the debate culture at universities. The influence of political opinions on the academic agenda is repeatedly discussed under the umbrella term "academic freedom". This discussion about a cancel culture and the political and social influence on science is also closely linked to the social challenges we face, such as climate change and other social, ecological and economic change processes. How should universities deal with seized lecture theatres? And how should they position themselves in relation to political activism?

Both examples illustrate the fundamental challenge: The current social situation - from a global, regional and local perspective - is perceived as crisis-ridden and livelihoods are under threat. How will climate development continue and how can we deal with it? How can we manage to maintain our standard of living in the face of scarcity of resources? And how do we deal with the threats to our democratic social order, such as the war in Ukraine?

These different challenges are highly interdependent and complex and require research-based answers. At the same time, they are characterised by a high degree of urgency, i.e. answers and proposed solutions are needed that can be implemented quickly if necessary. It can be observed that many other social stakeholders (politicians, NGOs, citizens' movements, etc.) are endeavouring to propose solutions which, if science hesitates too long to get involved, will not necessarily be based on scientifically sound findings.

In this sense, research and the science system as a whole are confronted with new challenges to which answers are needed - in addition to the existing structures of basic research.

The science policy discourse in the spotlight

The large number of position and strategy papers from various academic, science policy and science funding stakeholders makes it clear that many institutions consider the reorganisation of the interaction between academia and other areas of society to be an important and effective response to the challenges described above.

Firstly, the German Council of Science and Humanities should be mentioned which, in various position papers in recent years, has spoken out in favour of opening science to society in the form of policy advice and more application-oriented research - understood as a continuum between basic research and applied research.[1]

However, the Alliance of Science Organisations also issued a "Statement on Participation in Research" in 2022, in which it distinguishes between different forms of participation.

There is also an international debate on the issues of participation - and increasingly under the generic term "transdisciplinarity".[2]

In these various attempts to re-evaluate the role of science in and for society, different terminologies are used, which are not always clearly differentiated from one another and are associated with different meanings in discipline-specific discourses. Here is a cursory insight:

- For example, there is talk of strengthening transfer or translational transfer, which refers to the transfer of research results from science into practice. To strengthen these processes, many universities have recently set up translational departments for cooperation with, for example, industry, public administration, educational institutions or non-governmental organisations.
- The increased promotion of "citizen science" - understood as the integration of the public into research, e.g. through the collection of data - is also described in some places as a good way to reorganise the interaction between scientists and citizens.[3]

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[1] Science Council 2021: Impulses from the COVID 19 crisis for the further development of the German science system and Science Council 2020: Application orientation in research. Both position papers are based on the fundamental recommendations made by the Science Council in 2013 in its "Perspectives on the German science system" with regard to the major challenges faced by society.

[2] Eg. International Science Council: Conference on Transdisciplinarity, 2019 and the Swiss Academies of Arts and Sciences for example run a Network for Transdiciplinary Research (since 2008), project "Steering Research and Innovation for Global Goals" University Sussex https://strings.org.uk

[3] "Citizens create knowledge" platform, funded by the BMBF since 2013

- Science communication measures are required by many funding organisations when submitting applications. Professionalisation efforts are being made in many areas - particularly in the development of new methods with a stronger focus on integration.

Transdisciplinary research is a fairly new term in the debates on possible answers to the new challenges facing research. Although a consensual definition of the term is still to be established, the more intensive discussion in Germany since the turn of the millennium has highlighted several fundamental characteristics that form the basis for the Foundation's understanding of transdisciplinarity.

In contrast to interdisciplinarity and multidisciplinarity, transdisciplinarity means that non-scientific stakeholders are also involved in different phases of the research process - from the development of the research question and its processing through to the implementation of the results. In this sense, the term refers to a methodological approach to integrative research that combines scientific knowledge with practical knowledge.

Typically, transdisciplinary research is based on social problems and generates knowledge about the existing social situation (system knowledge), knowledge about potential development scenarios (target knowledge) and knowledge about how the existing situation can be changed in line with the developed goals (transformation knowledge). The research process requires a high degree of willingness to engage in dialogue on the part of all participants, as their own positions are viewed from different angles and, if necessary, questioned. It is a cross-border approach on various levels that exists and is used alongside other approaches that are more orientated towards basic research.

Strategic goals of the Volkswagen Foundation

With the present strategic considerations, the Volkswagen Foundation is reacting to the changed framework conditions, taking into account its previous experience and current science policy discussions. Overall, the Foundation's funding activities are focussed on the generation of new knowledge. To this end, it supports very different forms of research. For the three profile areas "Social Transformations", "Knowledge about Knowledge" and "Exploration" established as part of the new funding strategy, questions of interaction between scientists and representatives of other areas of society have very different significance and are addressed with different emphases depending on the occasion.

1. In the profile area "Social Transformations", new knowledge on social challenges is generated through cross-border and multi-perspective concepts and new ways of shaping social transformations are opened up. The topics of "demography", "circular economy", "wealth", "health" and "democracy" are currently being addressed with funding programmes. In these subject areas and in the development of new funding programmes, the foundation will
   - consider the implementation and embedding of research in social structures and, where appropriate, promote transdisciplinary formats - as described above.
   - intensify cooperation with other stakeholders in society in the development of new support programmes.
   - Identify people who, based on their scientific expertise, seek to build bridges to other areas of society.
   - test new ways of evaluating transdisciplinary projects.
   - with a view to impact orientation, take into account not only scientific output and impact but also the effects on various areas of society.
   - endeavour to carry out accompanying research into corresponding funding programmes for quality assurance purposes and thereby contribute to the development of best practice examples for transdisciplinary research.
   - Intensify cooperation with stakeholders who are committed to the application of scientific findings in social change processes, e.g. Phineo.

2. The activities of the profile area "Knowledge about Knowledge" aim to improve the framework conditions for research and teaching in Germany. The aim is also to make the boundaries between science and neighbouring areas more permeable. To this end, the Foundation
   - focus on the transfer of results from scientific research to the political decision-making level. Both funding activities and the foundation's own events serve this purpose.
   - address the culture of debate at universities and the topic of "academic freedom" in the context of the German academic system and, if necessary, reflect on this in their own events.

3. The "Exploration" profile area focuses on high-risk, curiosity-driven research. Strategically, the focus here is on basic research that expands knowledge horizons with daring ideas. Accordingly, the profile area
   - Questions of transfer and translation as the transfer of research results into practice are also considered in individual cases.

4. The Foundation introduces the aspect of transdisciplinarity into the science policy discourse and thus works to ensure that this type of research has a positive impact on the reputation of researchers.

5. The Foundation participates in international discussions on the topic of transdisciplinarity, including within the framework of the Philea Research Forum and in the context of the "Transdisciplinarity" working group of the Research on Research Institute (RoRi).

6. By specifically promoting science communication, the Foundation contributes to the professionalisation of this field in Germany.

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