

Science for all – Interim Report Executive Summary

"How can science communication with underserved audiences succeed?"



Access to scientific information is in today's society more important than ever – as a foundation for an informed participation in democratic decision-making processes or as a basis for personal decisions and potential career paths. However, various parts of society are not reached by many of the established forms of science communication. The project "Science for all" explores, who these people are, why they are not reached and how that can be changed. To address that, the groups not reached so far, and the responsible exclusion factors have been identified in a review of the scientific literature. Furthermore, several science communication projects have been analyzed as case studies regarding their methods and target groups.

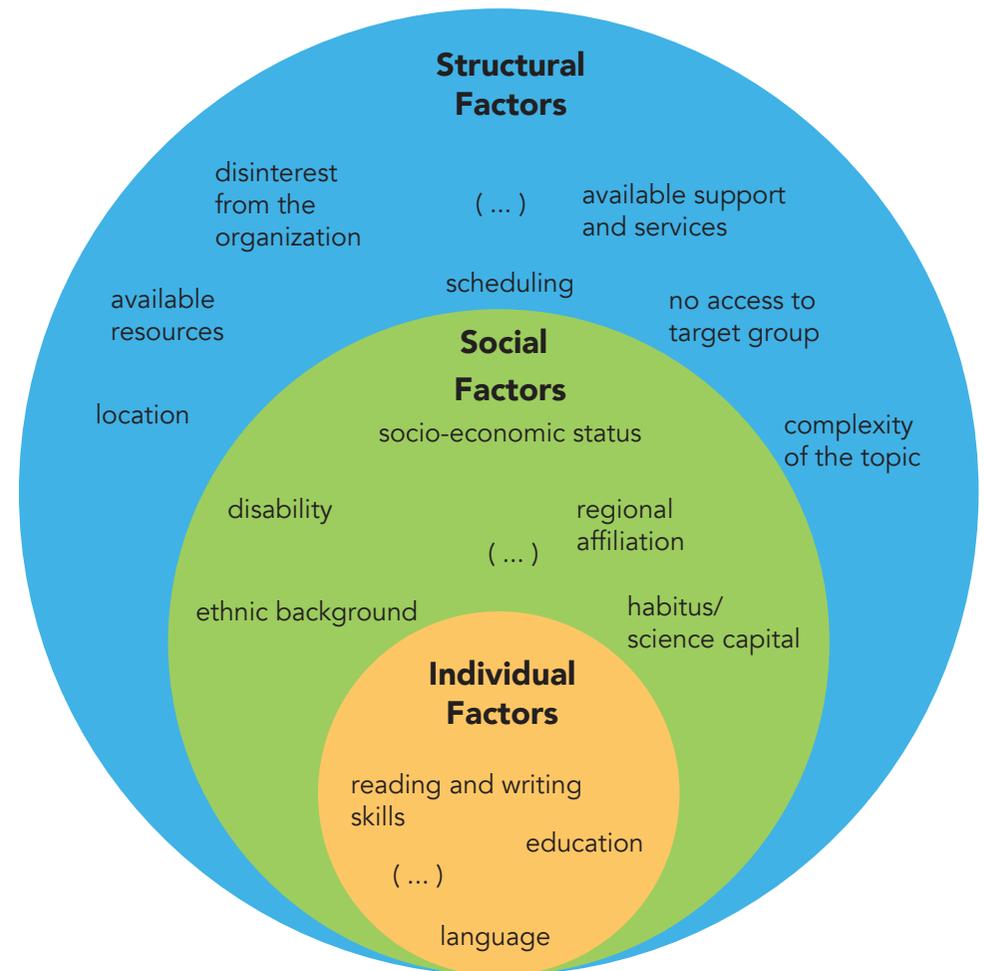
Literature Review



So far, a comprehensive and systematic overview of underserved audiences and exclusion factors is lacking for the field of science communication. Therefore, the available articles and studies from the field have been compiled in a literature review. The review additionally covered areas which are facing similar challenges, like political education, health communication or adult education.

The heterogeneity and diversity of the underserved audiences makes it difficult to define them precisely. Often, it is a combination of different exclusion factors respectively the corresponding excluding practices of science communication that lead to a marginalization. Also, exclusion factors can appear in different manifestations and can intersect. Therefore, it is more sensible to build the characterization of underserved audiences not on the notion of agglomerated target groups but rather on the causal factors.

To systematize the various exclusion factors identified through the literature review, a typology has been developed. This typology builds on a previous model from the field of adult education, which has been expanded and focused on science communication. The complete typology is available online in our full project report, however, currently only in German.



Case Study Analysis



In addition, six international science communication projects*) aimed specifically at target groups not reached by traditional means were analyzed in short case studies. The aim was to gain an overview of available practices and experiences. The central findings from this analysis can be summarized as follows:

- The focus mostly lies on a single target group, especially children and adolescents.
- In terms of content, the projects are mostly limited to STEM topics.
- The projects always try to establish a link between the scientific topics and the everyday worlds of the target group.
- First and foremost, fears of contact are to be reduced and interesting moments are to be put in the foreground instead of knowledge transfer.
- Science and research was made tangible for the target group.

*) The six projects were: *Enterprising Science*; *Diamond*; *Camp Discovery*; *I Am Science*; *Science goes Social and Physics for Refugees*. They were selected in such a way as to present as heterogeneous a picture as possible of the addressed scientific topics and applied methods as well as to cover national and international projects.

Expert Interviews



In addition to the literature review, interviews with experts from science and practice were conducted to ensure that no essential aspects were overlooked in the research. The interviews confirmed the factors cited in the literature, for potentially favoring or negatively influencing the accessibility of certain groups:

- *"The point is to show people that, with whatever knowledge and know-how, they understand such things."* (Dr. Inga Specht, scientific assistant at the German Institute for Adult Education)
- *"This must be experienced, it must be approachable and, I think it is also very important, it must also happen for the target group [...] in places outside school."* (Andreas Schulz, Head of Youth Welfare and Day Care Centers at the Evangelisches Jugend- und Fürsorgewerk)
- *"You always have to go into the neighborhood and sometimes you have to explicitly invite people first."* (Astrid Faber, Head of the Department of Education and Mediation at the Museum für Naturkunde Berlin)
- *"What we have noticed time and again, however, is that the organizers must already have a certain awareness of the need to reach such target groups at all."* (Barbara Heinisch, scientific assistant at the University of Vienna)

Project Overview

The project "Science for All" aims to find out exactly who has not yet been reached by science communication.

New formats of science communication are to be developed, tested and evaluated together with target groups previously not reached, so that even more people can be included in and addressed by science communication in the future.

The project, which is funded for three years, runs until August 2020 and is divided into four phases:

- 1) Literature research and conception
- 2) Format development
- 3) Format implementation
- 4) Analysis of results and communication

In May 2018, a comprehensive interim report in German was published at the end of the first project phase.

For the further course of the project, three exemplary groups were selected, which are often not reached by classical formats of science communication. Their situation and needs will be surveyed in more detail and new formats and approaches for science communication will be developed and tested in a participatory approach.

- 1) Muslim youths with a migration background
- 2) Socially disadvantaged people in marginalized neighborhoods
- 3) Students in vocational school

Further information and the complete interim report can be found on our website at: www.wissenschaft-fuer-alle.de/zwischenbericht/

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