



**METASCIENCE**  
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# An overview of qualitative research in open science



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## Background

Open Science (UNESCO, 2021) is gaining traction around the world.

## Purpose

Provide an overview of the essential characteristics of the qualitative empirical articles on open science that have been published to date.

## Research question

What published qualitative empirical research on open science can tell us about the development of this topic?

Facets: 1) Most used techniques, 2) Research design, 3) Component, 4) Subject areas, 5) Sampling strategy, 6) Study sample, 7) Unit of analysis, 8) Study limitations, 9) Research data availability.

# Methodology

The searches were made in Google Scholar, Semantic Scholar and Scopus. A total of **28 articles** were selected.

Keywords: open science, ciencia abierta, ciência aberta, science ouverte.

Period of the bibliographic research: October 2020 - January 2021.

Texts in English, Spanish, Portuguese and French.



# Results

## 1. Most used techniques

Interviews:

Researcher's opinion, perspective or knowledge gap about some specific aspect of open science.

Document analysis:

Journal policies and institutional or official governmental policies on an open science facet.

## 2) Type of research design

Two types of research design in the articles:

Descriptive & Exploratory.

## 3) Components of open science

Open science policies and science policy.

## 4) Subject areas

The sciences and technology.



# Results

## 6) Study sample

Case studies - Small interview sample,  
Content corpus of documents can be  
further composed of two main  
groups: a relatively small corpus  
-around 100 documents- and a corpus of  
thousands of documents.

## 5) Sampling strategy

Lack of a formal sampling methodology.  
Only seldom mentioned.  
The most common sampling strategies  
are snowball, purposive, criterion,  
convenience and self-selective sampling  
and their distinctive combinations.

## 7) Unit of analysis

Varies according to the technique:  
Interviews - Researchers.  
Document analysis & Content analysis  
Documents.

## 9) Research data availability

Majority of the article corpus do not publish  
their research data.  
When it happens, it is published on  
international platforms such as Zenodo or  
Figshare.

## 8) Study limitations

*Exploratory research:* Representativeness of  
the sample, comprehensiveness of the  
research or lack of exhaustivity.  
*Generalization:* Issues on the chosen  
languages, countries, studied areas.  
Lack of representativeness of the sampling  
criteria instrument.

# Discussion & Conclusions

1) The chosen methodologies are traditional qualitative methods, such as interviews and document analysis. None of the revised papers in this corpus used digital qualitative methods.

2) There is not a clear distinction between qualitative approach and qualitative methodology. Both terms are used as synonyms.

3) The research design is of descriptive and exploratory nature. Explanatory or causal study design has not been yet employed for open science qualitative research.

4) Qualitative research on open science is frequently very localized. Generalization is rather difficult.

**Thank you for your attention.**

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