

Warmup 2a: Daten wissenschaftlich nutzen

716408 | How 2 do Things with even more Numbers

KMH
WS 21-22 (updated: 2021-11-05)

Wooooooooo!



(Giphy)

Wooooooooooooo ... ?

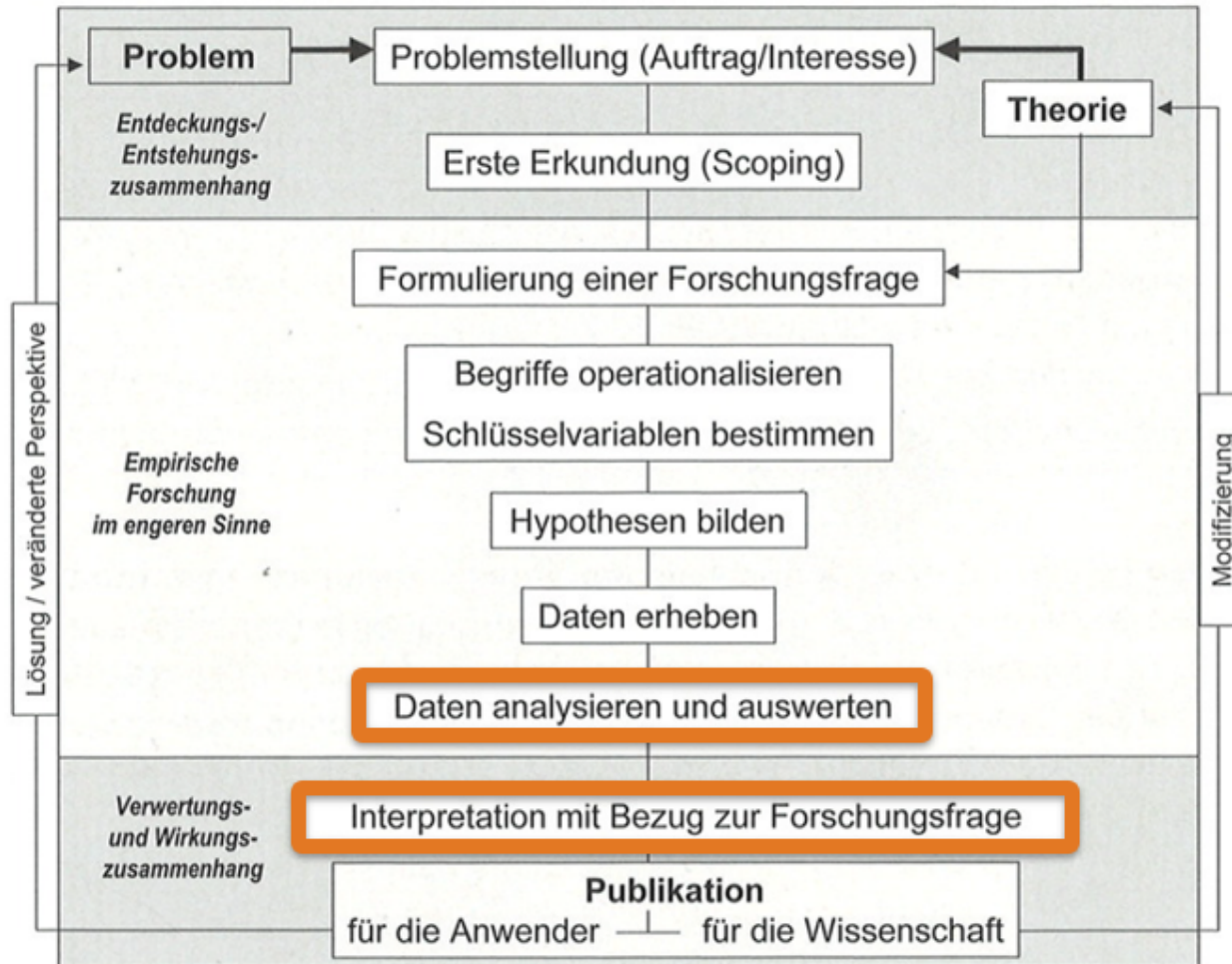


(Giphy)

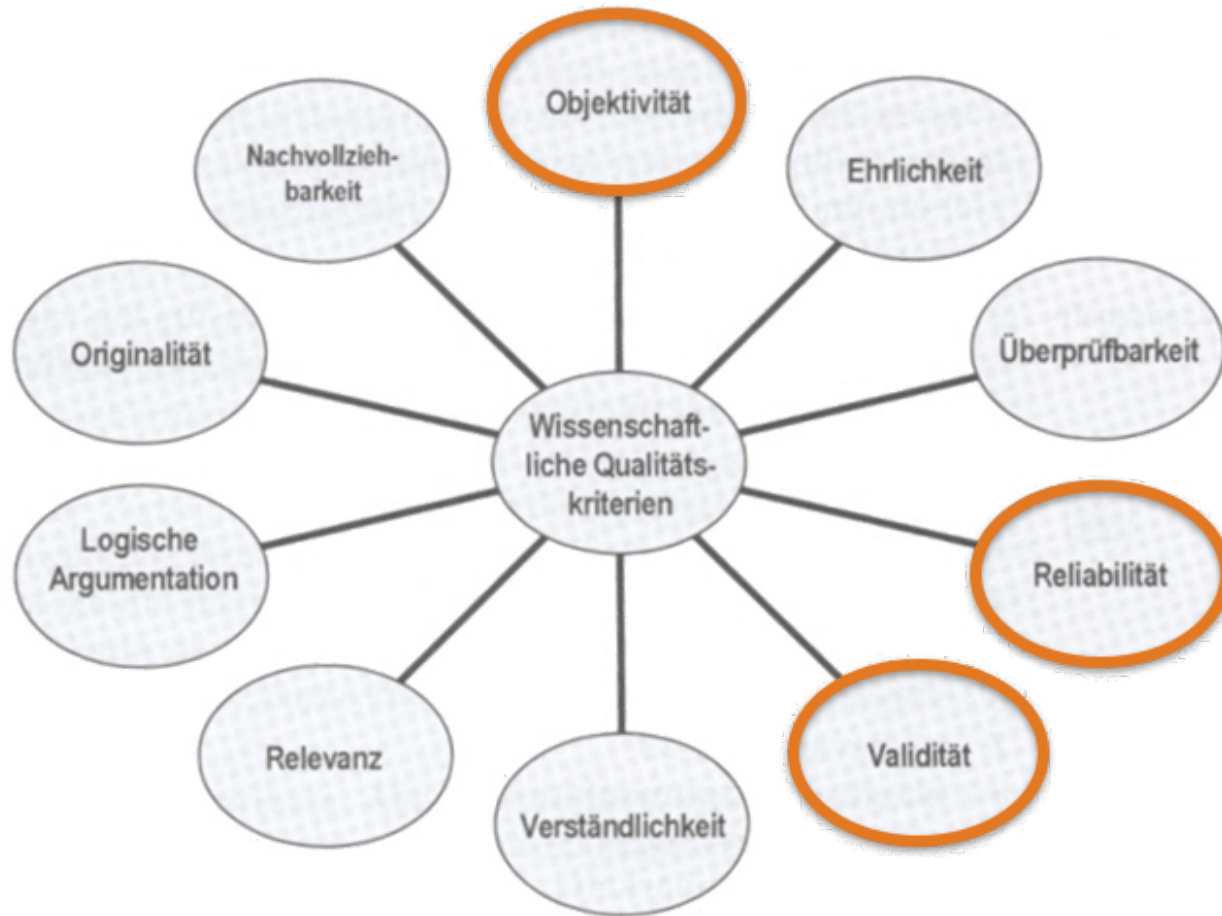


Daten verarbeiten ...
aber wie?

Einen Schritt zurück: Wissen schaffen in der Geographie



Qualitätskriterien wissenschaftlichen Arbeitens



@ Objektivität

- Wiss. Produkte sollen **sachlich & vorurteilsfrei** sein
→ neutral in Darstellung
 - *"[...] die neutrale Haltung ist eine Voraussetzung dafür, dass sich andere Menschen mit den Inhalten der Arbeit ungehindert und ohne Angst vor Manipulationen beschäftigen können."*
(Balzert et al. 2008:13)
- Konsequenz: **Selbstkontrolle**
 - Inhalte neutral und vorurteilsfrei darstellen
 - Quellen unvoreingenommen auswählen

@ Reliabilität (aka Zuverlässigkeit)

*"Ein hoher Grad an Reliabilität bedeutet, dass die Messinstrumente höchst zuverlässig messen und dass die gewonnenen **Messergebnisse stabil** sind. Bei einer Wiederholung der Untersuchung mit den gleichen Geräten und Methoden müssen andere Personen zu den **gleichen Ergebnissen** kommen."*
(Balzert et al. 2008:22)

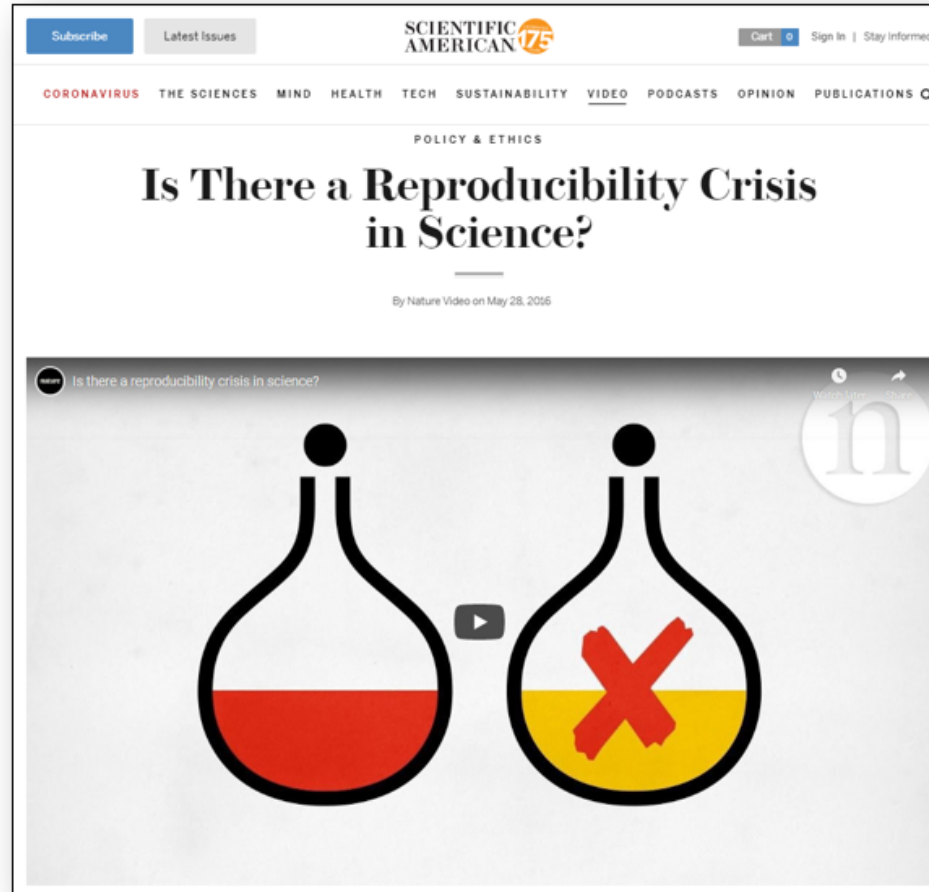
- → fehlerhafte Messinstrumente können Resultate vortäuschen
- auch beim Kodieren qualitativer Materialien:
Intra- & Interkoderreliabilität

Grundfrage: Wird das gemessen, was auch gemessen werden soll?

- *"Validität steht für den Grad der Genauigkeit, mit der ein zu prüfendes Merkmal tatsächlich geprüft wird."*
(Balzert et al. 2008:23)
- BSP: Befragung zur Präsidentenwahl 1936 in Amerika (n=10 Mio.)
 - Adressen aus Telefonbücher & KFZ-Zulassungen
 - → Befragung der „vermögenden Klasse“
 - → bildet nicht die Meinung des „Amerikaners“ ab
= nicht valide Messung



Also alles gut, oder?



Open what!?

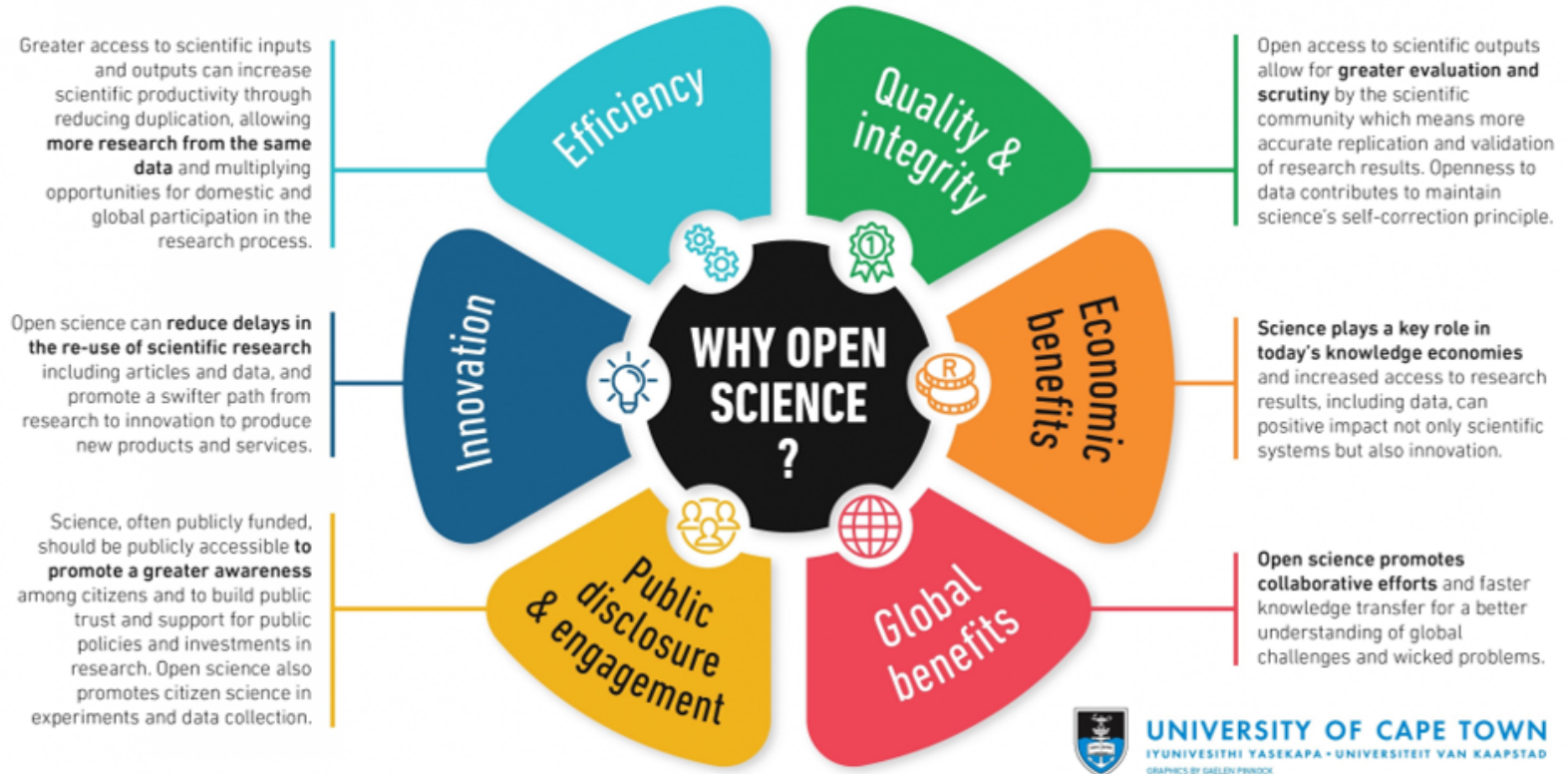
Open Science is ...

- “... the movement to make scientific **research, data and dissemination accessible** to all levels of an inquiring society.”
- “... the practice of science in such a way that **others can collaborate and contribute**, where research data, lab notes and other research processes are freely available, under terms that **enable reuse, redistribution and reproduction** of the research and its underlying data and methods”
(FOSTER 2018:12ff.)

Was Open Science „Open“ macht



Was man sich davon erhofft



Further reading:

The screenshot shows the website for the Open Science Network Austria (OANA). The header includes navigation links: Home, Über Open Science, Arbeitsgruppen, Nationale Aktivitäten, News & Events, and Über uns. A search bar is located in the top right corner. The main content area is titled 'Über Open Science' and contains several sections:

- Über Open Science:** A paragraph explaining that Open Science describes the opening of scientific production processes and scientific output in the age of digitalization. It mentions that Open Science can be divided into different areas, with examples like FOSTER, Wikipedia, and the Open Science Training Handbook.
- Open Access to Publications:** A section explaining that Open Access (OA) stands for unrestricted and free access to scientific information on the internet. It lists primary and metadata, source texts, and digital reproductions. It also states that Open Access is linked to the requirement that research results be publicly accessible to all interested parties. Free licenses regulate additional rights of use and reuse.
 - [Zu den Open Access Ressourcen](#)
- Open Research Data:** A section explaining that Open Research Data are data that are part of scientific work (e.g., through digitalization, source research, experiments, measurements, surveys, or surveys) and are 'open', i.e., available on the internet worldwide. It also mentions that data should follow the FAIR Data Principles (findable, accessible, interoperable, and re-usable).
 - [Zu den Open Research Data Ressourcen](#)

On the right side of the page, there is a sidebar with the title 'Über Open Science' and a list of resources:

- Open Access Ressourcen
- Open Research Data Ressourcen
- Citizen Science Ressourcen
- Rechtsfragen

The page also features a large image of orange buttons with the OANA logo and a graphic with the word 'OPEN' in large letters, surrounded by the words 'RESEARCH DATA' and 'CH DATA'.

<https://www.oana.at/ueber-open-science/>

Für den Kontext dieser VU:

- **Open Methodology:**

- Methodologische Vorgehensweise explizit machen
- Erhebungsinstrumente offen & wiederverwertbar darlegen

- **Open Data:**

- Gewonnene bzw. genutzte Daten dokumentieren
- ... offen & wiederverwertbar darlegen

- **Open Source:**

- Einsatz offener Erhebungs- & Analysetools

Ein kleiner Test:

The screenshot shows the ScienceDirect website interface. At the top, there is a navigation bar with the ScienceDirect logo, a search bar, and a link to 'Access through University of Innsbruck'. The main content area features the article title 'Why do we not pick the low-hanging fruit? Governing adaptation to climate change and resilience in Tyrolean mountain agriculture' from the journal 'Land Use Policy', Volume 79, December 2018, Pages 386-396. The authors listed are Heidelinde GrDineis, Marianne Penker, Karl-Michael Höfler, Markus Schermer, and Patrick Scherhauser. A 'Highlights' box is prominently displayed, containing four bullet points: 'Six different adaptation types are identified in Tyrolean mountain agriculture.', 'Identified adaptation types represent a broad range of local practices.', 'Unintended local adaptations constitute low-hanging fruit for decision-makers.', and 'Presented framework may help to allocate public resources more efficiently.' The left sidebar contains an 'Outline' section with a list of article sections (Introduction, Critical assessment, Case study, Methods, etc.) and a 'Figures' section with two thumbnails. The right sidebar includes 'Recommended articles', 'Citing articles (1)', and 'Article Metrics'.

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Highlights

Abstract

Keywords

1. Introduction

2. Critical assessment of the effects of c...

3. Case study – mountain agriculture in...

4. Methods

5. Practical climate change adaptation l...

6. Discussion

7. Conclusions

Appendix A. Supplementary data

References

Show full outline

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Table 3

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Document

Document

Document

Land Use Policy

Volume 79, December 2018, Pages 386-396

ELSEVIER

Why do we not pick the low-hanging fruit? Governing adaptation to climate change and resilience in Tyrolean mountain agriculture

Heidelinde GrDineis ^{a,*,}, Marianne Penker ^{a,}, Karl-Michael Höfler ^{b,}, Markus Schermer ^{c,}, Patrick Scherhauser ^d

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<https://doi.org/10.1016/j.landusepol.2018.08.025> Get rights and content

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