Opportunities and challenges in **qualitative data synthesis** for **school culture research**

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Lightning Talk at Human Research Data in Practice
Virtual Workshop, 20th April 2021, Max Planck Digital Library

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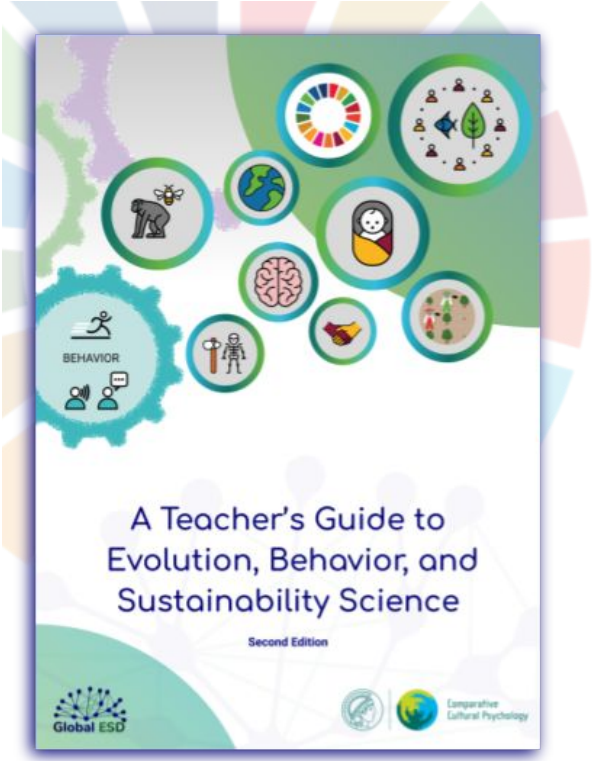
Educational design concept

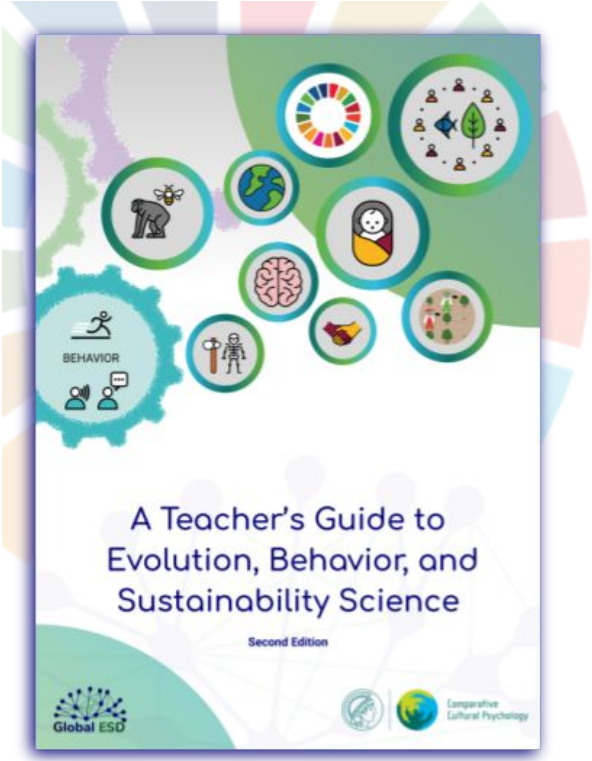


Teaching **human behavior** as an **interdisciplinary** theme

Community Science Lab

Educational Design Lab

Educational design concept



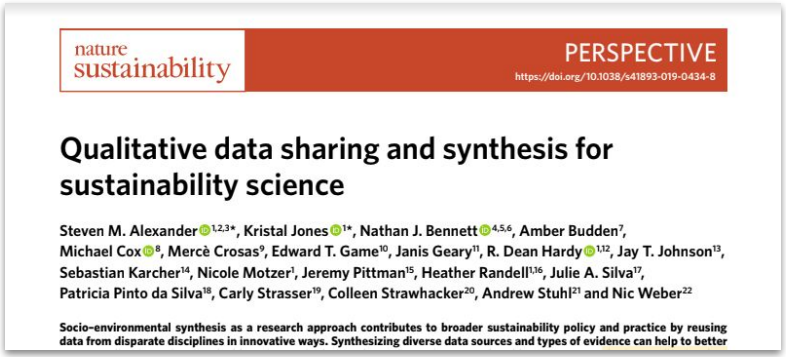
How can we more strategically **grow**, **integrate**, and **contextualize** the evolving dataset?

Community Science Lab

Educational Design Lab

Schools as Field Sites for Applied Cultural Evolution Science

Participatory scientific infrastructure to **investigate** and **shape** the **cultural evolution** of schools?



nature sustainability

PERSPECTIVE

https://doi.org/10.1038/s41893-019-0434-8

Qualitative data sharing and synthesis for sustainability science

Steven M. Alexander[1,2,3*], Kristal Jones[1*], Nathan J. Bennett[4,5,6], Amber Budden[7], Michael Cox[8], Mercè Crosas[9], Edward T. Game[10], Janis Geary[11], R. Dean Hardy[1,12], Jay T. Johnson[13], Sebastian Karcher[14], Nicole Motzer[1], Jeremy Pittman[15], Heather Randell[1,16], Julie A. Silva[17], Patricia Pinto da Silva[18], Carly Strasser[19], Colleen Strawhacker[20], Andrew Stuhl[21] and Nic Weber[22]

Socio-environmental synthesis as a research approach contributes to broader sustainability policy and practice by reusing data from disparate disciplines in innovative ways. Synthesizing diverse data sources and types of evidence can help to better

Alexander, S. M., Jones, K., Bennett, N. J., Budden, A., Cox, M., Crosas, M., ... & Weber, N. (2019). Qualitative data sharing and synthesis for sustainability science. *Nature Sustainability*, *3*(2), 81-88.

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Open Source Community Science Platform for **Networked School Improvement**

- **Integrating data** from *Educational Design* & *Community Science Labs* within an *innovation ecosystem*
    - Structured for **longitudinal**, **comparative**, and **cumulative** analyses
- **High value** potential for
    - School Improvement
    - Science Education
    - Comparative Cultural Psychology
- **Not there yet!**

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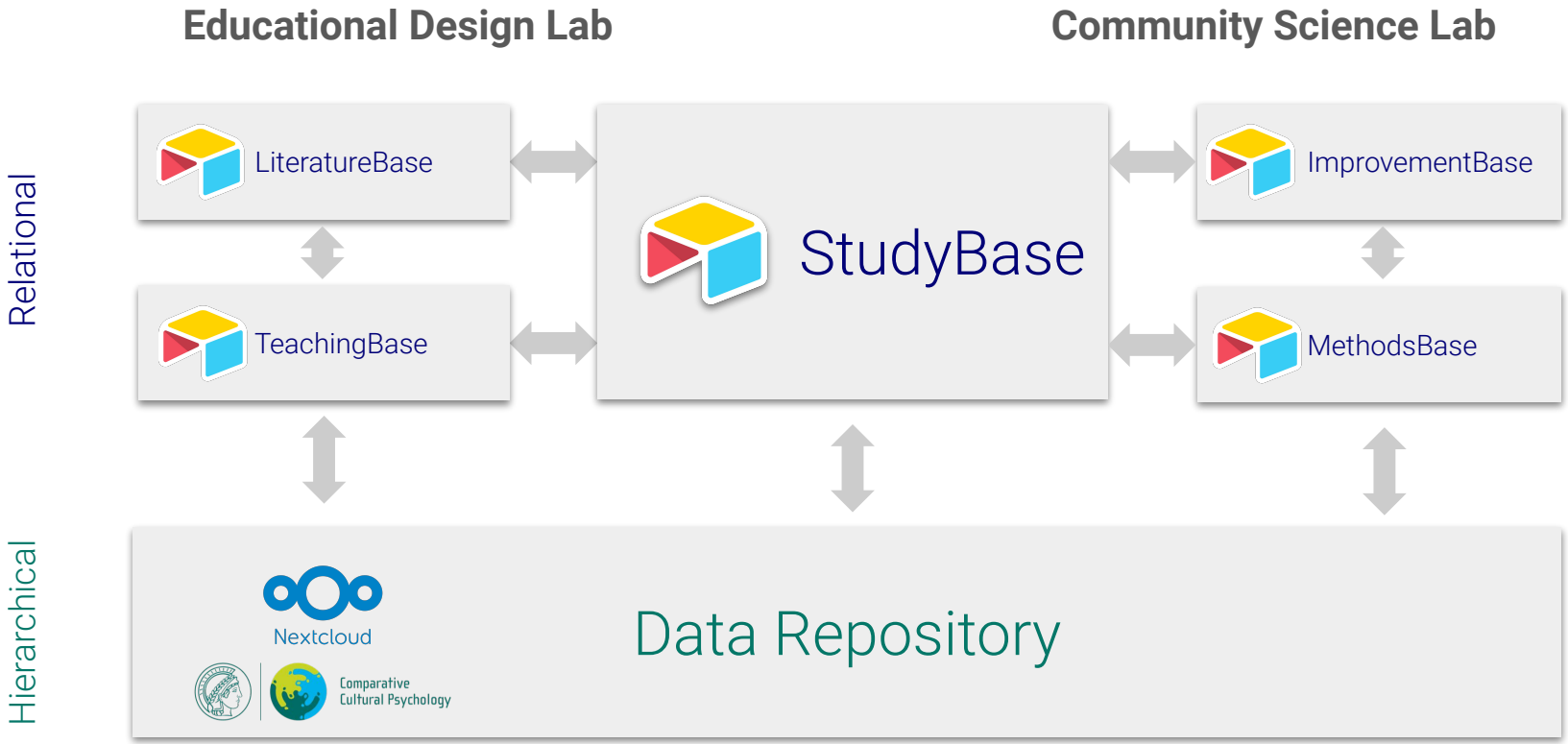
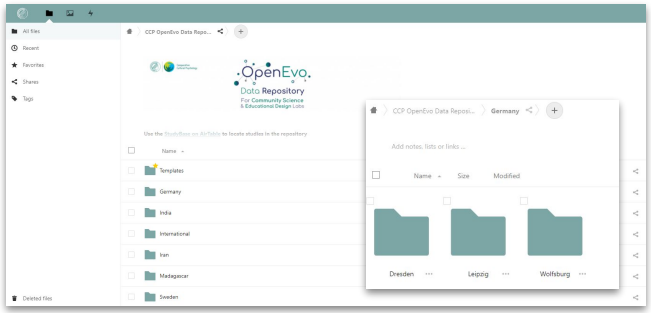
OpenEvo Science-to-Learning Database

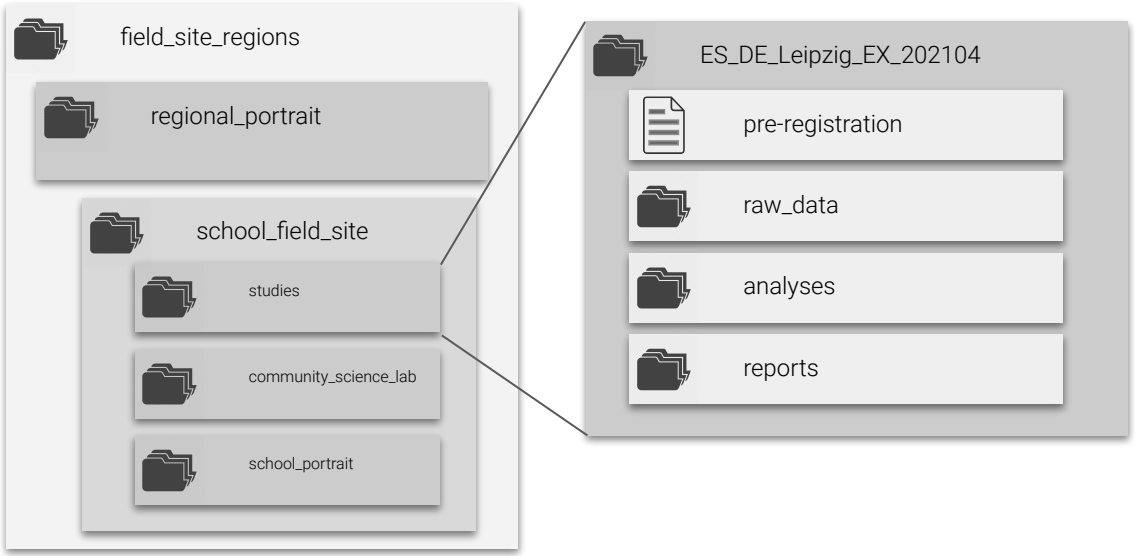


OpenEvo Data Repository

Geographically structured, secure, NextCloud data repository at MPI-EVA



Data Structure for School Field Sites



OpenEvo - StudyBase

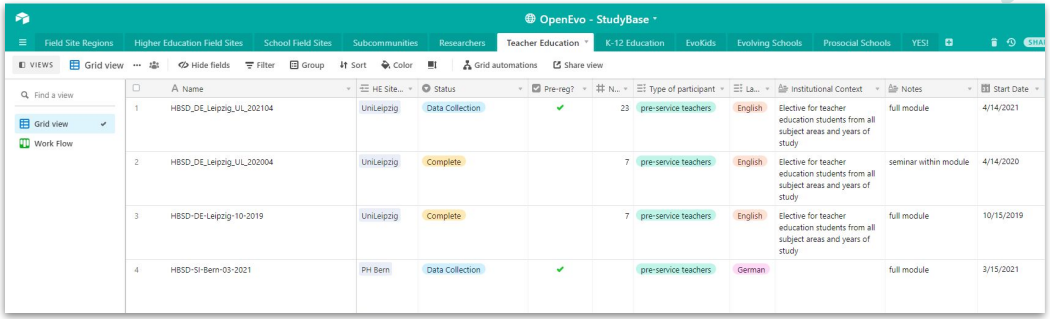
Airtable

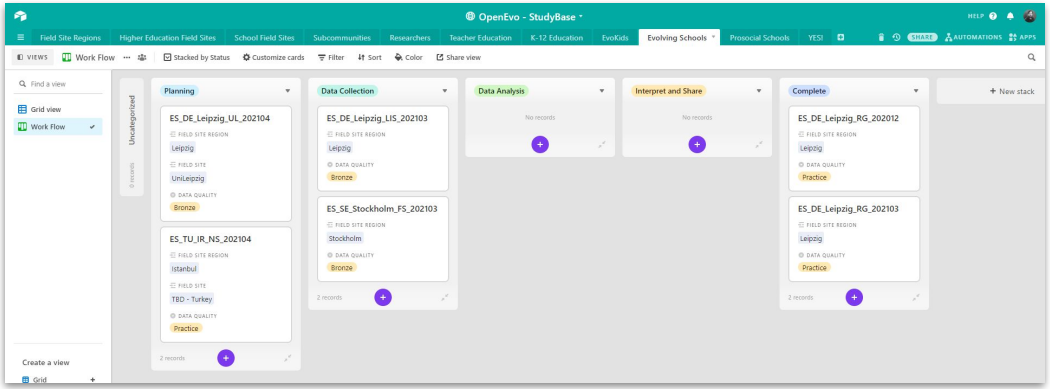
Relational database of field site regions, field sites, researchers, and all community science and educational design lab studies

Tracks **researcher engagement** and **data access** permissions

Organizes studies

Manages **workflow**

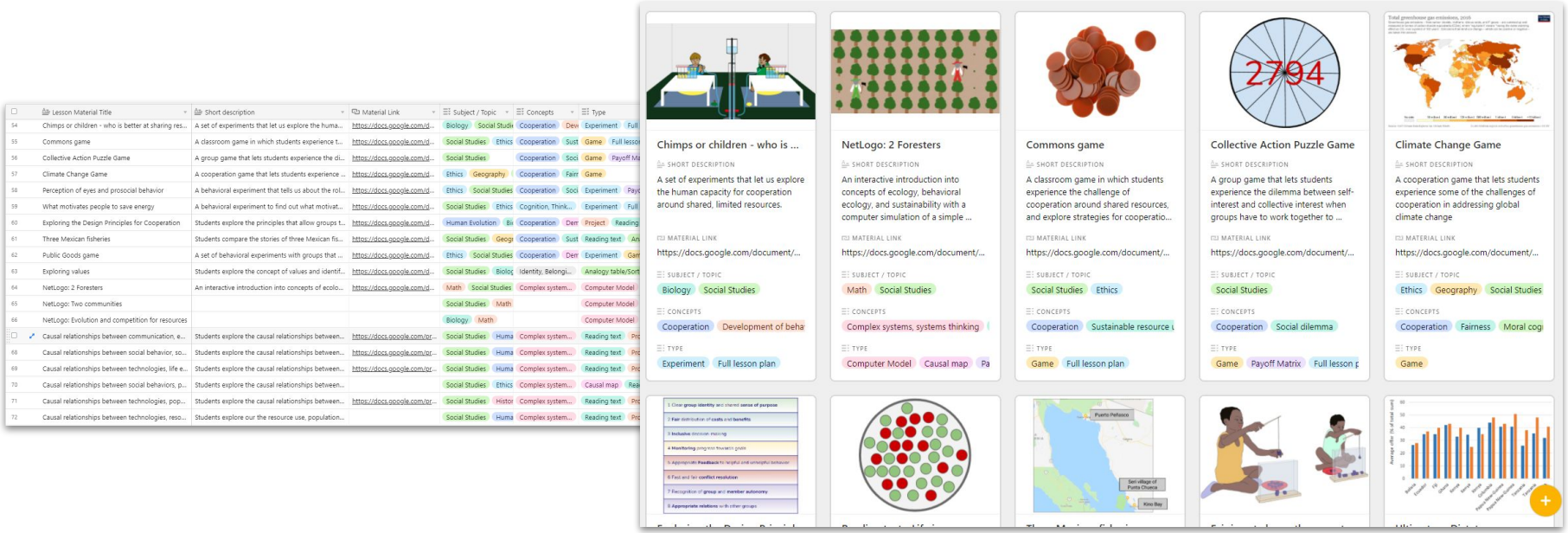




OpenEvo - TeachingBase

Airtable

Relational database of creative commons **teaching materials** suitable for development, trialing, and improvement, with embeddable web-based views for **easy teacher access**

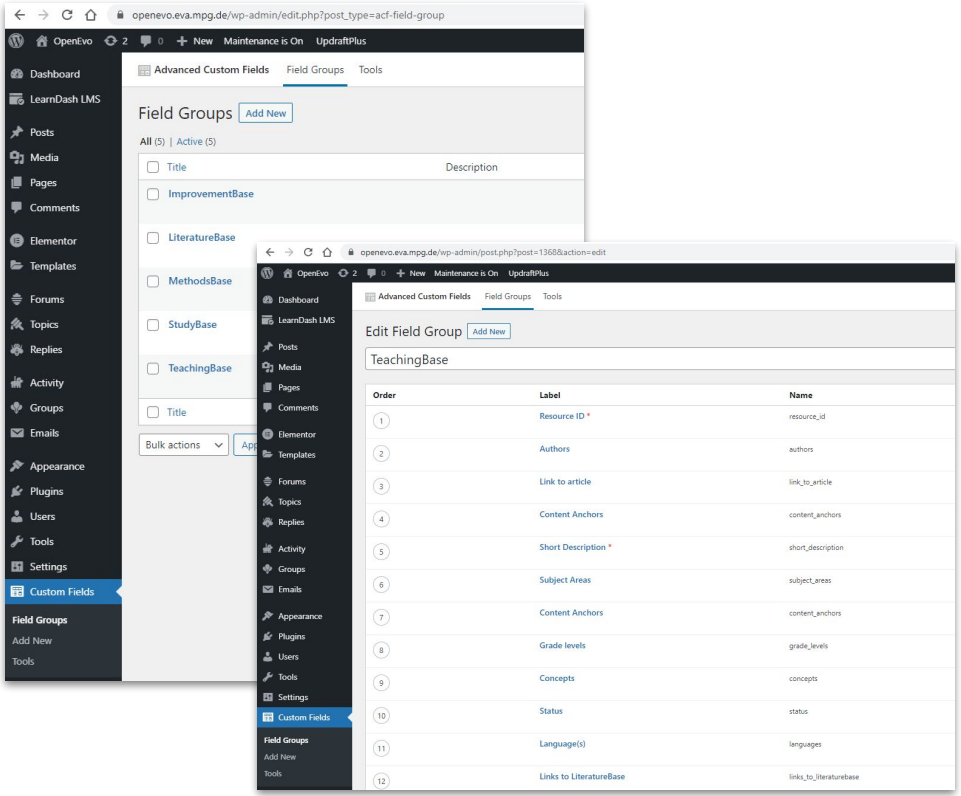


Problems with AirTable

- Proprietary software
- Third party servers
- Limited ability for hierarchical structuring of bases and base collections (workspaces)
- Limited between base relations
- Limited importing/exporting of coding systems
- Limited base exporting
- Limited entries for some field types
- Limited conditional field entry
- Limited formatting of frontend views
- Limited aggregation and analytic capacities
- Limited file attachments
    - Limited metadata for attachments

WordPress database using Advanced Custom Fields

- Partial / possible solution
- User interface not (yet) ideal for novice community scientists
- Workflow functions of AirTable will require **further custom development**



Open Source Community Science Platform for **Networked School Improvement**

- **Open science** data management **standards** for interdisciplinary synthesis in school culture
- *AirTable-like* **interface** as **integrated data** and **workflow management** platform
- **Open source**, local servers, interoperability across trusted servers
- **User-friendly** front-end experience across Science-to-Learning Databases
- **Flexible** group structuring and linking

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Additional Information

Education development at MPI-EVA-CCP

https://www.eva.mpg.de/comparative-cultural-psychology/education.html

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