



**DIPF**

Bildungsforschung  
und Bildungsinformation

# **DaQS - Developing a scientific service for the reuse of questionnaire items in the context of educational research**

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[http://www.fachportal-paedagogik.de/forschungsdaten\\_bildung/index.php?la=en](http://www.fachportal-paedagogik.de/forschungsdaten_bildung/index.php?la=en)

# Overview

- What is DaQS?
- What are the aims of DaQS?
- Which object types are documented in DaQS?
- What are the advantages of DaQS?
- How is the quality of school conceptualized in DaQS?
- What functions are offered by DaQS?
- What about the DaQS workflow?
- What is planned in the future?

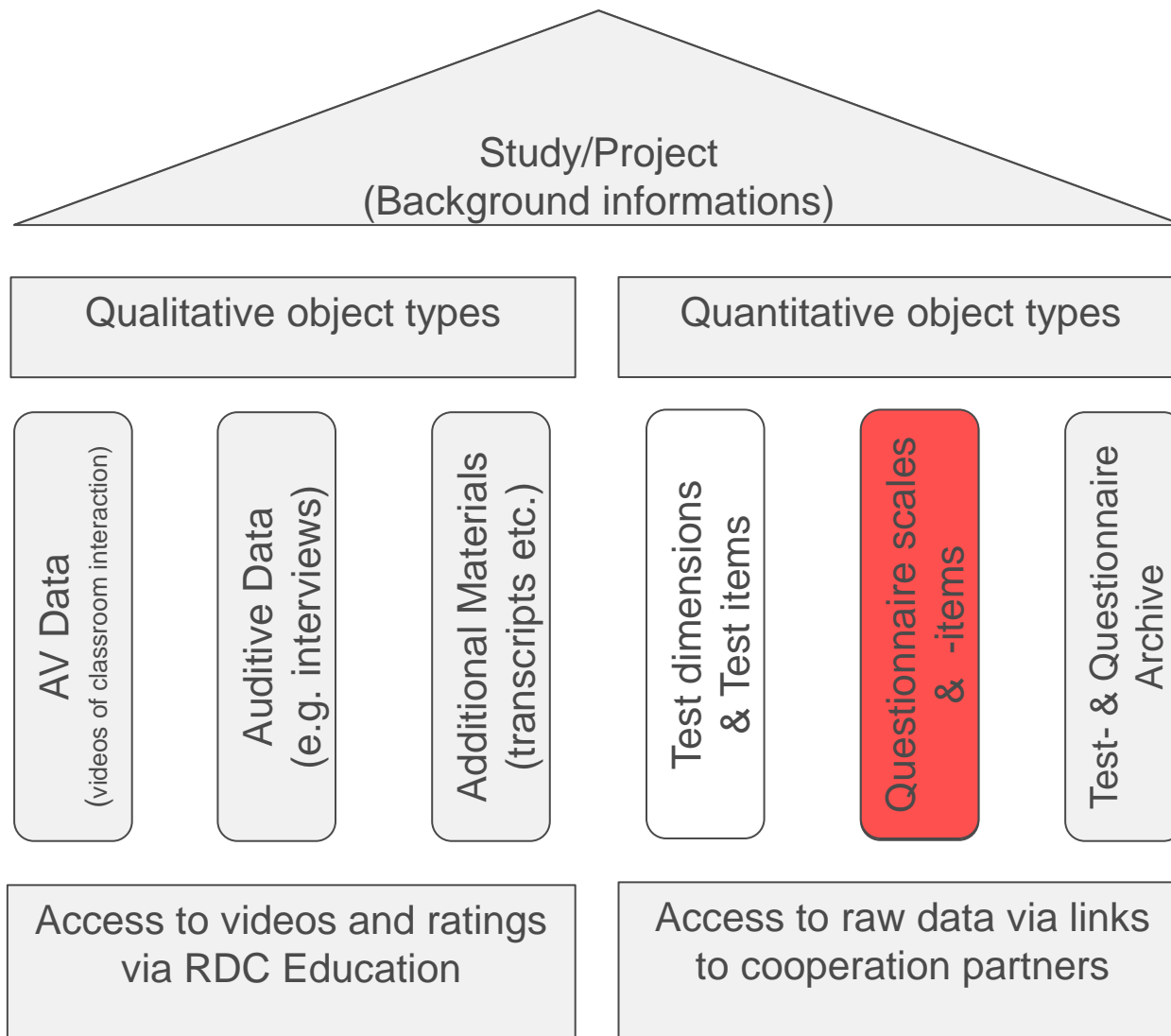
# What is DaQS?

# DaQS – Database for Quality of Schools

DaQS is a database for **quantitative research in education**.

DaQS offers information about the background and the design of studies and the applied instruments:

- Obtain information about the **theoretical background of studies**
- Obtain information about the **sample** and the **sample size**
- Obtain information about the **documented instruments** (constructs, scales, indices, items)
- Checkout the **quality of instruments** with the help of specific indicators
- Checkout the **operationalization** of theoretical constructs and scales
- Receive contact details to **get in touch with researchers** of the several studies
- Obtain information about the **right citation** of instrument you want to use
- Today DaQS is part of the Research Data Centre Education (RDC Education)



# Which object types are documented in DaQS?

# Contents of DaQS

- DaQS is an open repository to store **quantitative educational research instruments**.
- All contents are only available in **German language**.
- DaQS hosts more than **16 studies** including **3.800 scales** and more than **22.000 items**.
- In fact, the **documentation of questionnaires** is the main purpose of DaQS.
- In the future the **documentation of tests** (paper and computer based) will be a great challenge for the development of the database.

What are the aims of DaQS?



# Aims of DaQS

- Developing **open access** and an **open source** database to file and document questionnaires relevant for educational research.
- **Enriching the metadata** for an elaborated scientific exchange.
- Doing research in terms of **usability** to integrate users needs.
- **Systemizing the instruments** for reuse by assigning them to theoretical constructs.
- Depicting **questionnaire contents** on several levels (study, construct, scale, single item).
- **Activating the research community** for a systematic improvement and expansion of the database.

What are the advantages of DaQS?

# Advantages of DaQS

DaQS...

...is a service **free of charge** for use and documentation.

...provides a **central access** to studies and questionnaires of educational research.

...further offers quick access to the contents via a **search** or a **browsing function**.

...**prepares the instruments** in an elaborated way (every scale is linked to one or more theoretical constructs of quality of school or instruction).

...allows a **comparison of instruments**, which helps to identify the most appropriate one.

...enhances the **transparency of scientific action**.

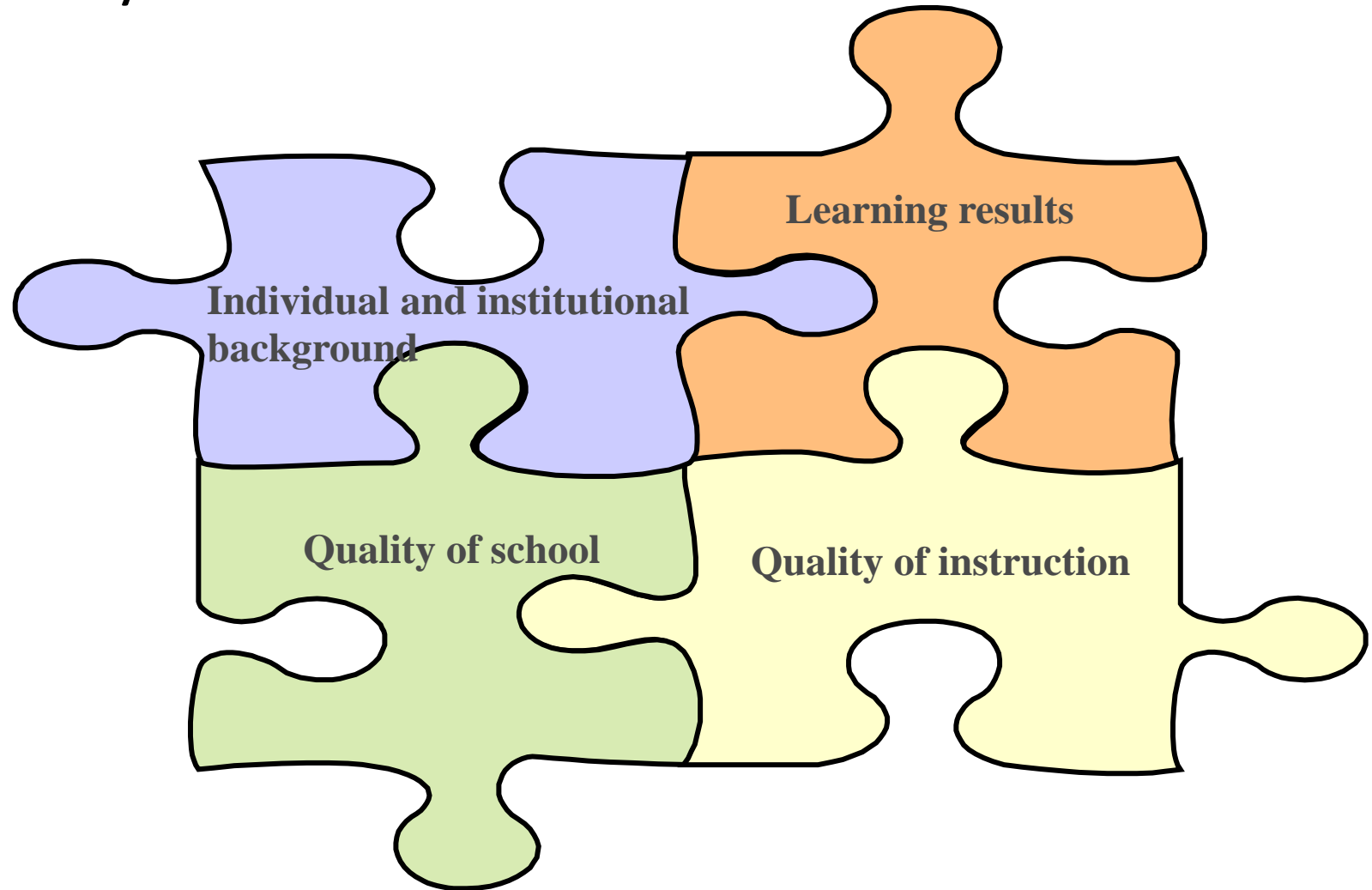
...enhances the **visibility** of studies, applied instruments and study results.

...prevents from **reinventing the wheel**.

...**collects and preserves knowledge** about the instruments of educational research.

How is the quality of schools conceptualized in DaQS?

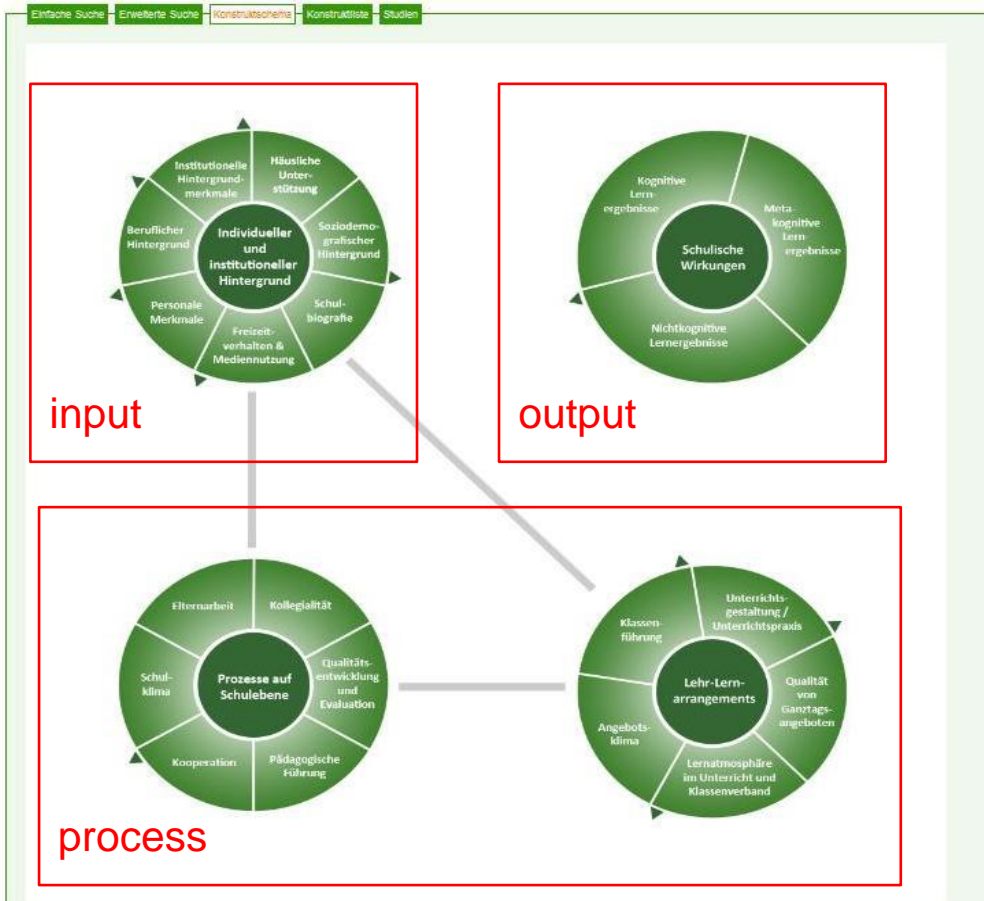
# Conceptualizing the quality of school and instruction



# Conceptualizing the quality of Schools and instruction: Construct scheme

## Konstruktsschema

Die grafische Übersicht der Konstrukte gestattet Ihnen einen Einblick in die DaQS-eigene Systematik und theoretische Struktur der Datenbankinhalte.



Model structure:

Input –Process-Output

Literature:

- Ditton 2000.
- Hattie 2009
- Scheerens & Bosker 1997,
- Seidel 2008,
- Seidel & Shavelson 2007
- Wang et al. 1993

### Modellbeschreibung

Um Merkmale der Schul- und Unterrichtsqualität zu systematisieren wurde auf ein Bildungsproduktionsmodell zurückgegriffen, das auf der Struktur Input-Prozess-Output beruht. Bildungsproduktionsmodelle stellen neben Angebots-Nutzungsmodellen den aktuellen Stand der Schulqualitätsforschung dar. Sie bieten eine breite Basis für die Systematisierung und Strukturierung der Qualitätsmerkmale und sind ein wichtiger Ausgangspunkt, um die verschiedenen Instrumente bzw. Skalen den Konstrukten der Schulqualität zuzuordnen. Das vorliegende Modell erhebt den Anspruch Schulqualität möglichst vollständig darzustellen und damit eine möglichst umfassende Integration der Instrumente aus Studien zur Schul- und Unterrichtsqualität zu gewährleisten.

Das Modell unterscheidet zwischen Hintergrundmerkmalen, Merkmalen der Prozessqualität sowie jenen, die die Erfassung schulischer Lernergebnisse zum Ziel haben. Bei Merkmalen der Prozessqualität lässt sich zusätzlich zwischen Prozessen auf Schulebene und Merkmalen der schulischen Lehr-Lernarrangements unterscheiden. Letztere nehmen neben der Erfassung von Unterrichtsqualität auch die Qualität von Ganztagsangeboten in den Blick. Dieses Modell orientiert sich eng an den Spezifika des deutschen Schulsystems, da es Ganztagsangebote als gesonderte Kategorie aufnimmt, die in Ländern mit einem ganztägig organisierten Schulsystem selbstverständlich sind.

What functions are offered by DaQS?

# Demonstration of DaQS



What about the DaQS workflow?

# The DaQS workflow

- Acquisition of a study (active and passive).
- Contacting the publisher of the documentation.
- If not published → contacting the study directors to receive an internal documentation.
- Making a contract to ensure a legal release in DaQS.
- Enriching the metadata by evaluating the documentation (example).
- Linking the scales to the construct scheme of DaQS (four-eyes principle).
- Feed the system with data (backend).
- Checking the quality of the data entry (four-eyes principle / staging server).
- Activating the study for public access.

What is planned in the future?

# Future perspectives

- Preparing DaQS for the documentation of **paper based** and **computer based tests**.
- **Internationalising** the database:
  - Preparing DaQS for the documentation of even non-German studies.
  - Making DaQS connectable for international cooperation partners and tools.
- Full integration of DaQS in the **RCD Education** as a generic system.
- Implementing DaQS contents on a **virtual research platform (ROGATUS)** for a collaborative working of (educational) researchers within the internet.

# Overview: Components of the RDZ Education



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<b>Study</b> (Overview / details)
<b>Instrumente</b> (Questionnaire/ test)
<b>Data</b> (AV media, transcripts ...)
<b>Search, Filter, Browsing</b>
<b>Editorial pages: Meta information</b>
<b>Agency: Contact person</b>

**Export** 3.a  
(DDI, Word, Excel, ...)

**Reporting** 3.b  
(DDI, Word, Excel, ...)

**2 Portal**  
webservice (https?)

**2.1 Access management**  
(tests + video Data)  
remote access, data enclave

**2.2 Linking**  
(„trustful archive“)

**Backup** 7.a

- Development history
- Contents
- Data (digital preservation)
- Skript-files

**Script management** 7.b

- versioning
- staging-/test server

**5.a** User generated content  
(data entry : Meldeformular,  
ConstructValidator)

**6.1 Teamserver**  
(local)

**1 Central Repository**

- 1.1 Study information**  
meta data  
(DaQS + Neps)
- 1.2 Questionnaire**  
meta data + files
- 1.3 Tests**  
meta data + files  
(paper based & computer based)
- 1.4 Qualitative Data**  
Meta data + files  
( VideoData, transcripts  
etc.)
- 1.5 Usermanagement**  
user data, contracts, email contact
- 1.6 Contract management**  
(Acquise management)

**4 Data entry**

Editorial system / CMS (Textpages)			
Administration data & file management	Datan hosting (internal / external)	Anonymisation	Automatic cover generation
Entry / Administration meta data	DOI-Registration / Citation	Literature	

**6.a Questionnaire Builder**

**6.b Metadata editor**

local server 1, local server 2, Local server X

**5.b** Registration frontend and backend  
(internal/external; staged access,  
area specific access)  
contact formular

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Thank you very much for your attention!

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