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

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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)
Research Data Centre Education (RDC Education)

Study/Project
(Background informations)

Qualitative object types
- AV Data
  (videos of classroom interaction)
- Auditive Data
  (e.g. interviews)
- Additional Materials
  (transcripts etc.)

Quantitative object types
- Test dimensions & Test items
- Questionnaire scales & -items
- Test- & Questionnaire Archive

Access to videos and ratings via RDC Education
Access to raw data via links to cooperation partners

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

- **Quality of instruction**
- **Quality of school**
- **Individual and institutional background**
- **Learning results**
Conceptualizing the quality of Schools and instruction: Construct scheme

Model structure:
Input – Process – Output

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

1. Study (Overview / details)
2. Instrumente (Questionnaire / test)
3. Data (AV media, transcripts ...)
4. Search, Filter, Browsing
5. Editorial pages: Meta information
6. Agency: Contact person
7. Portal webserver (https?)
8. Access management (tests + video Data)
9. Central Repository
10. Remote access, data enclave

1. User generated content (data entry: Meldeformular, ConstructValidator)
2. Local server (local)
3. Teamserver (local)
4. Local server X
5. Questionnaire Builder
6. Metadata editor
7. Registration frontend and backend (internal/external; staged access, area specific access)
8. User data, contracts, email contact
9. Contact formular
10. Teamserver (local)
11. Study Information
12. Questionnaire meta data
13. Tests meta data + files
14. Qualitative Data meta data + files (VideoData, transcripts etc.)
15. User management
16. Contract management (Acquise management)
17. Entry / Administration
18. Data entry
19. Export (DDI, Word, Excel, ...)
20. Reporting (DDI, Word, Excel, ...)
21. Portal (access management)
22. Central Repository
23. Local server 1
24. Local server 2
25. Local server X
26. Central Repository
27. Backup
28. Script management
29. Data entry
30. Editorial system / CMS (Textpages)
31. Administration data & file management
32. Data hosting (internal/external)
33. Anonymisation
34. Automatic cover generation
35. Entry / Administration
36. DOI - Registration
37. Literature
Thank you very much for your attention!

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Literature


