



Institut zur Qualitätsentwicklung
im Bildungswesen

Forschungsdatenzentrum

The Research Data Center (FDZ) at the Institute for Educational Progress (IQB)

IASSIST Tampere, Finnland

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Bundesministerium
für Bildung
und Forschung



- The Empirical Turnover in Educational Research and Politics in Germany
- The Institute for Educational Progress (IQB)
- The Research Data Center (FDZ) at the IQB
- Datasets currently at the FDZ at IQB
- Look behind: The first Challenges: Data Acquisition and Deliberation of Data Access
- Application and Access now
- Actual Challenges: Data Dissemination and Documentation
- Summary and Discussion

Germany was in empirical educational research in the 60s ...

- and participated in occasional international Large Scale Assessments (e. g. FIMS, 1964)

In the 70s and 80s Germany retreated from large scale educational research and ...

- did not participate in international Large Scale Assessments anymore (e. g. SIMS, 1978)
- neglected the development of Programs for Educational Monitoring
- neglected empirical Research in Educational Science

→ one important reason was the very controversial debate about comprehensive schools

The Empirical Turnover in Germany started in the 90s ...

- with the participation in several studies (e. g. TIMSS, 1995). Average Results started a debate.

At the beginning of the new millenium...

- the PISA-2000-shock reached the public in Germany
- as a reaction more Educational Monitoring Studies where started (e. g. IGLU, MARKUS) and Educational Standards where set (Output Orientation)

The Institute for Educational Progress (IQB)

- Independent scientific institution of the federal states of Germany
- Funded by the federal states (Standing Conference of Ministers of Education (KMK))
- The IQB is affiliated to the Humboldt-University Berlin
- First working period: December 2004 – September 2009
- Since independent evaluation basic funding without time restrictions

Core Services of the IQB

To further develop, specify and test the Educational Performance Standards of the KMK

- Development of large pools of test items
- Conducting empirical studies to norm and approve the educational standards
- Supply test items for federal state programs
- Supply test items for schools internal evaluations
- Supply materials for competence based education

The Research Data Center (Forschungsdatenzentrum - FDZ) at IQB started to operate in April 2007. It is funded by the Federal Ministry of Education.

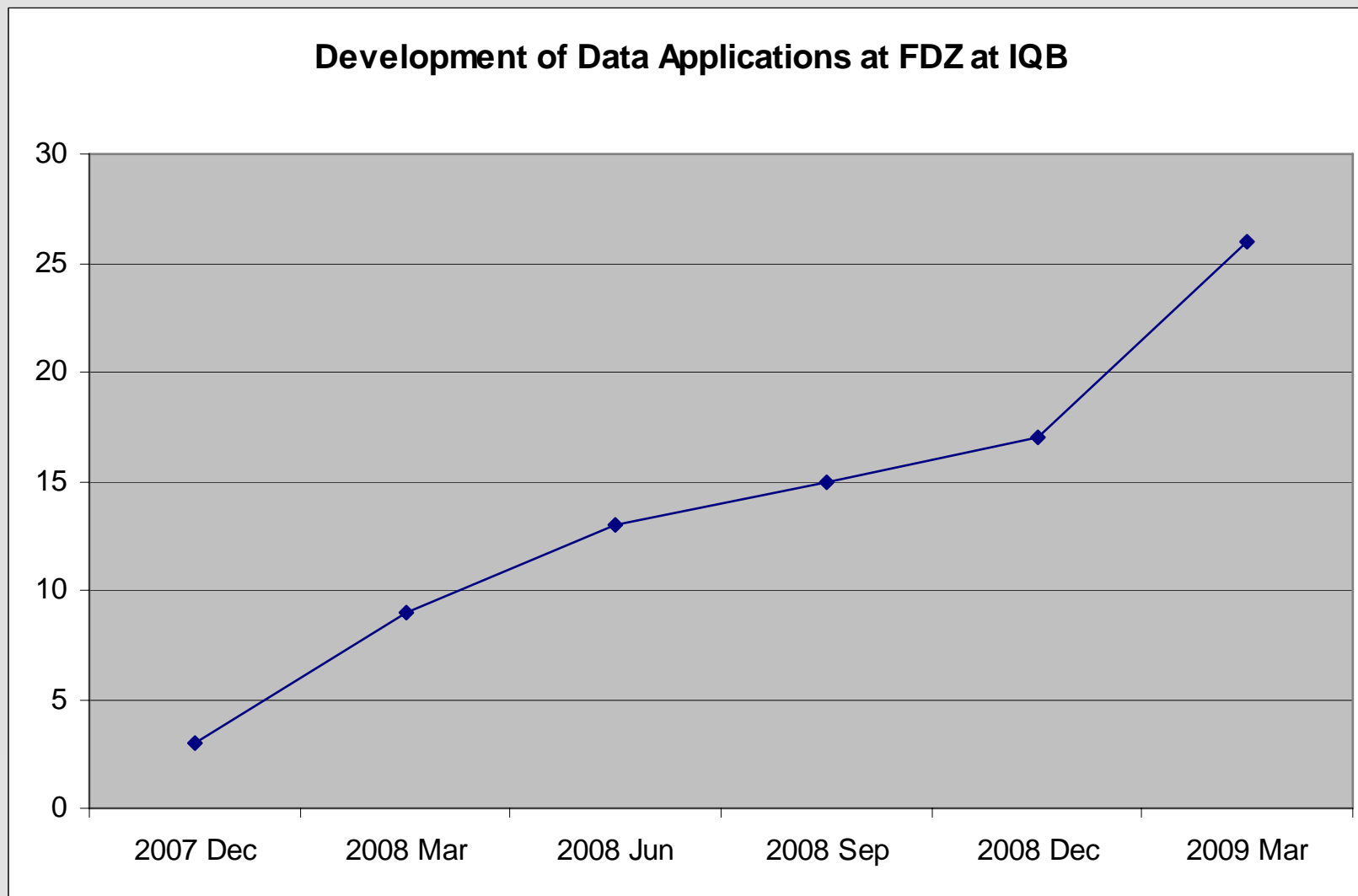
- Since over 15 years a vast amount of Educational Large Scale Assessment Studies have been conducted in Germany and more are coming up
- Customary this data was only accessible for the conducting researchers
- The growing demand of the scientific community to have transparent and regulated access to these data sets lead to the foundation of the FDZ at IQB
- The specific methodological and political needs of this data sets where the central rationales for the foundation of the FDZ at IQB
- The FDZ provides access to and training on Educational Large Scale Assessment Data and serves as a mediator between politics, data producers and users
- Examples for the special methodological demands are
 - Scaling by Item Response Theory
 - Multi-Matrix-Sampling-Designs
 - Jackknifing to control for the clustered Data Structure

- PIRLS (IGLU) 2001
 - Above 10.000 elementary students in fourth grade. Oversampling in 7 states.
 - E. g. Reading, Mathematics and Science, IQ, Social and Psychological Background
- PISA 2000
 - Above 45.000 secondary students of 15 years age. Oversampling all 16 states.
 - E. g. Reading, Mathematics, Science, IQ, Social and Psychological Background
- PISA 2003
 - Above 45.000 secondary students of 15 years age. Oversampling all 16 states.
 - E. g. Reading, Mathematics, Science, IQ, Social and Psychological Background
- MARKUS 2000
 - Almost 40.000 secondary students in eighth grade. Only Rhineland-Palatinate.
 - At the time Achievement Scales missing, Social and Psychological Background
- ELEMENT 2003 - 2005
 - Almost 5.000 students longitudinal from grade 5 over 6 up to 7. Only Berlin.
 - E. g. Reading, Mathematics, English, IQ, Social and Psychological Background
- soon: LAU 1996 - 2000
 - About 13.000 students longitudinal from grade 5 over 7 up to 9. Only Hamburg.
 - E. g. Reading, Mathematics, English, IQ, Social and Psychological Background

- Despite conducting researcher where included in the foundation process of the FDZ at IQB data acquisition turned out to be a major problem
- From the very start important data producing agencies refused to hand over data with reference to uncertainties in the regulations
- First to hand over data even before the start of FDZ in April 2007 was the leading conducting researcher of IGLU (PIRLS) 2001 - Wilfried Bos
- It took 6 months until the second data set (PISA 2003 E) was handed over
- The PISA 2000 data set was handed over January 2009. It is unclear when e. g. TIMSS 1995 will be given to FDZ at IQB
- Another upcoming challenge will be PISA and IGLU (PIRLS) 2006 I

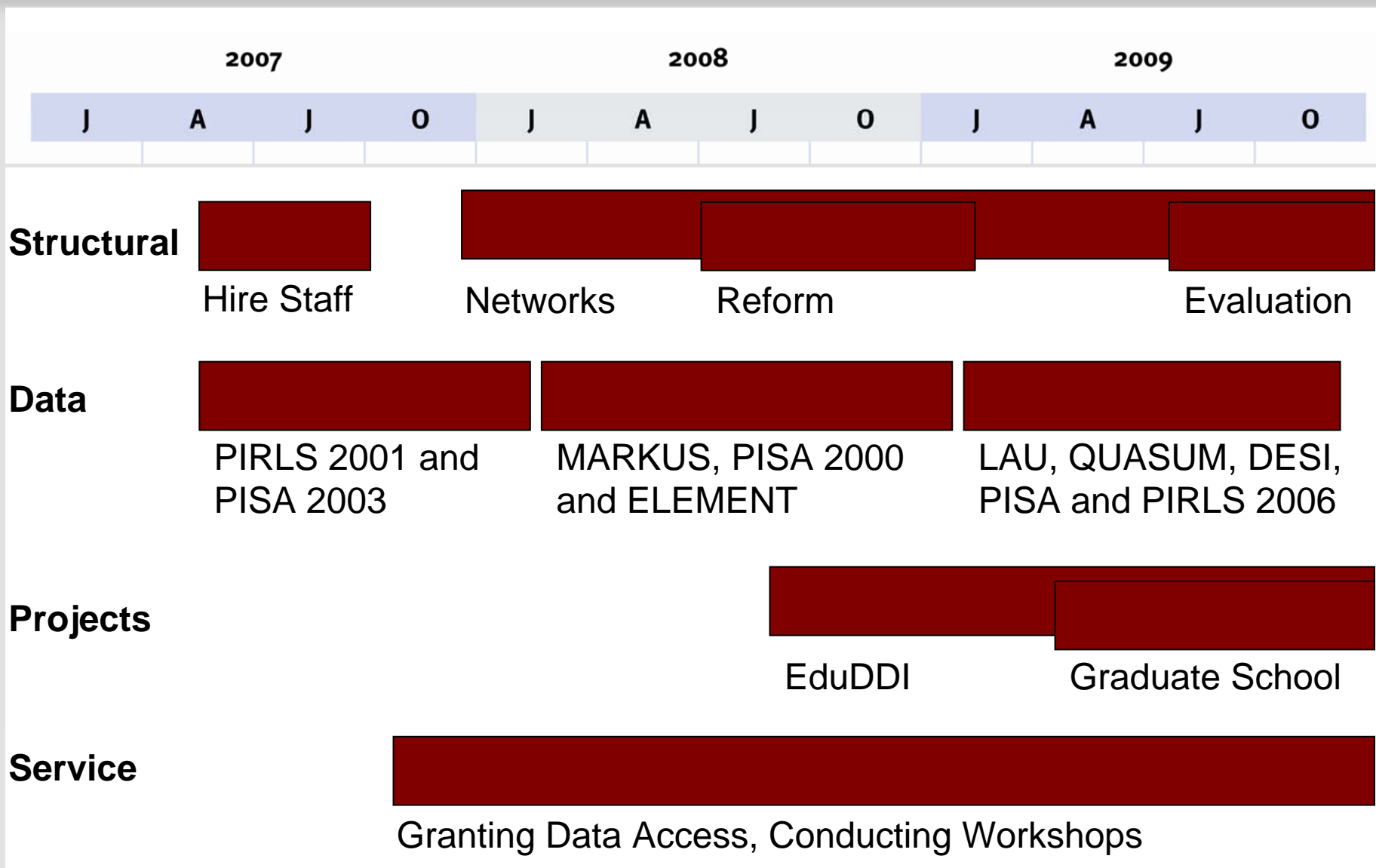
- Problems on the foundation of the FDZ at IQB
 - Conducting researchers where concerned by documentation needs and loss of exclusive rights (balance between personal effort and benefit for the researcher)
 - There was a worry that wrong conduct and interpretation of analyses by the scientific community would lead to additional work due to necessities of replies
 - Federal states where concerned by total loss of control over analyses and results
- Result was a very restrictive data access regulation
 - Conducting researchers had a veto right for data applications
 - The federal states had to be asked for every state comparisons
 - Two independent researcher had to review each proposal by scientific standards
 - The German Council for Social and Economic Data did not recommend the FDZ-IQB
- Reform of the data access regulation
 - First experiences showed that concerns where exaggerated
 - So we proposed an ease to the federal states that was approved end of 2008
 - The German Council for Social and Economic Data now recommends the FDZ-IQB

- To apply for data at the FDZ at IQB
 - Write a proposal of 2-5 pages
 - State hypotheses and planned analyses
- FDZ at IQB grants access to the data if
 - The objective is scientific and not commercial
 - No regulations are violated (like state comparisons of IQ)
 - No protected thesis is affected (list by data producers handed over with data)
- Data access to data sets at FDZ at IQB can be
 - Through a scientific use file
 - Research visit at FDZ at IQB in Berlin
 - Remote computing → Cooperation with IZA to apply Josua



- Despite a growing number of applications for data access at FDZ at IQB since the new regulations are in power there is still a need of improvement (50/year)
- Broader informational campaign: Presentations and booths e. g. on conferences
- Improvement of the data documentation
 - Currently very low standards in data documentation in educational research
 - Usually only codebooks, international studies have a technical report
 - What is documented and how is somehow arbitrary
 - This documentation style makes it hard for the user to get an overview
- Starting up the EduDDI work group
 - Implement the DDI 3.0 standard in educational research
 - Cooperation with central educational research institutions like NEPS, IEA
 - Objective is to make meta data easier accessible
- Implementing easier ways of data access like Josua in cooperation with IZA

Working Schedule of the FDZ



- Since the Empirical Turnover Educational Large Scale Assessments (ELSA) are well established in Germany
- The general claim of good scientific practice to make public data available for scientific reanalysis lead to the foundation of the FDZ at IQB
- Beside the general problems accompanied by such foundations the situation is especially political explosive in Germany
- Steps successfully taken at FDZ at IQB
 - Recognition and use by the scientific community
 - Substantial amount of data sets available
 - Approval of the necessity of data hand over is growing
 - Easier access to data for researchers
- Steps to be taken at FDZ at IQB
 - Data documentation needs to be standardized and extended
 - Data access needs to be simplified while considering data protection issues



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Let's talk!



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- The FDZ so far consists out of 6 persons
 - Scientific Coordinator
 - PhD Student
 - Technical Coworker
 - Secretary
 - Two student aids

- Staff will be extended
 - Graduate Students
 - Further successive extensions are planned (e. g. EduDDI)