

# A project on computer-assisted education measurement

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# Problem to be solved

- Education one of the most used variables in survey research, key social background variable
- but: measurement with limited response categories getting more and more difficult
- educational reforms have multiplied number of qualifications available and held in population
- immigration and student mobility: importing foreign qualifications into the survey country
- lack of standardisation makes variables difficult to harmonise over time, surveys and countries post-hoc, resulting in crude aggregations

# Project aim:

## provide a new service

- consisting of survey measurement instruments
- that enable the accurate and cross-nationally comparable measurement and coding of highest educational qualification obtained
- in computer-assisted surveys (where content can be shown visually to respondents, i.e. CAPI, CAWI)
- during data collection
- covering the whole of Europe (extension later)

# Basic information

- CAMCES: Computer Assisted Measurement and Coding of Educational Qualifications in Surveys
- Methodologically and technically related to DASISH WP3 Occupation Coding Software
- Funding for 3 years (2013–2015)
- Hosted at GESIS Mannheim
- Headed by Silke Schneider
- Team at GESIS will include two PhD students and two student assistants

# Cooperation partners

- DASISH occupation coding experts: Peter Elias, Eric Harrison, Kea Tijdens
- AIAS, University of Amsterdam (WageIndicator): Kea Tijdens
- TNS Infratest: Ulrich Schneekloth
- DIW, Berlin (SOEP): Jürgen Schupp
- Involvement of GESIS experts on cognitive pretesting, translation, web surveys...
- Budget for translations, programming, hosting...

# Project outline:

## Work packages

1. Development and validation of an international database of educational qualifications;
2. development and testing of survey instruments and database integration;
3. development and testing of a technical interface for computer-assisted surveys;
4. testing of the integrated service in CAWI and CAPI pilot studies; and
5. project coordination, meetings and long-term sustainability assurance for the service.

# Work package 1: database development

- In contrast to occupations, educational qualifications cannot be translated
- Universe of educational qualifications has to be established on a by-country basis
  - Current and "historical" qualifications
  - Regional variations, synonyms, colloquialisms
  - Common foreign qualifications
- Assignment of cross-national standard codes
- Validation studies
- Time schedule: 2013–14

# Work package 2: questionnaire instrument

- Can we switch from closed question with limited response categories to a "guided" open question?
  - What do respondents come up with?
  - Especially in web mode?
- Develop and test respondent routing, question wording, probing, interviewer instructions
- Critical: respondent burden, response quality, administration time, mode specificities
- Outcome: Instrument design(s)
- Time schedule: 2013-14



# Work package 3: technical user interface

- Access database through
  - search field and algorithm selecting best matches presented to user
  - unfolding two-level search tree (think nested conditional show cards)
- Outcome: web service making interfaces available for survey organisers (?)
- Time schedule: 2014–15

# Work package 4: pilot studies

- Test CAPI instrument, interface and database using SOEP special migrant sample
- Test CAWI instrument, interface and and database using WageIndicator web survey
- Optimise database, instrument and interface
- Time schedule: 2015

# Work package 5: project management and sustainability

- ensure the effective and efficient operation of the project; documentation
- annual project meetings involving experts working on related projects (e.g. in the area of occupational coding)
- ensure long-term sustainability of the resulting service; business plan and PR strategy
  - database and documentation maintenance
  - software maintenance, running costs

# Expected benefits

- improve the measurement and coding of educational qualifications in surveys
  - better coverage of foreign, rare, and "outdated" educational qualifications;
  - more accurate information as a result of the detailed measurement;
  - standardisation and automation of the coding and harmonisation process.
- Database useable as standard resource for post-hoc harmonisation for researchers and data archives

# Further ideas

- Include further countries (easier: OECD, more difficult but not impossible: rest of the world)
- Enrich database by information on educational institutions and programmes
- Build in plausibility checks (nice to have but not likely to happen in this project?)
- Extend to related concepts by developing related but different instruments using same database (educational careers, dropout...)
- Develop related database, instrument and interface for field of education/training (more similar to occupation because "translateable")
- Improve instruments in CATI and PAPI using results of this project

# Challenges

- Integrating/synchronising work packages (e.g. requirements for interface will only become clear during the first 1-2 years)
- Technical vs. substantive vs. methodological skills
- Integration in a variety of survey contexts and modes (CAWI and CAPI)
- Relationship to questionnaire development documentation and translation tools?

# Thank you!

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