

Teaching Survey Statistics by Teleteaching: A joint project at three German universities

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The background of the project

The Teleteaching concept

Needs and Technical aspects

Future aspects

Growing importance of survey data

- Surveys have become more frequent
 - cheaper sampling procedures
 - cheap data storage
 - powerful computers
 - intelligent questionnaire tools
 - combination with register information
- Surveys have become a more important source of information, esp. in Europe growing need for comparative analysis in the European Union.
- Easier access to micro data by research data centers :
 - distribution of campus files via internet
 - distribution of scientific use files via CD
 - batch job computing at data center
 - remote access at safe off-site environment
 - on-site computing at data center

Survey Statistics at (German) universities

- Survey statistics are rarely taught at German universities at present!
- With the introduction of Bachelor and Master grades in Germany there are emerging specialized master programs
(For example, 6 Master programs at the economic faculty of the FU)

Options

- Classical summer schools (Ann Arbor, Southampton, BANOCOSS)
- Specialized master program at one university: A least 3 professors are needed!
Note: there is **no** university in Germany with 3 survey statisticians at docent level!
- Distributed program at different universities:
 - Traditional: docents travel to students or students to docents (expensive!).
 - Video conference: Not suited for the presentation of formulas, tables, etc.
 - Virtual classroom: Not integrated in the regular teaching schedule.
 - Teleteaching: to be explained later!

The background of the project

The Teleteaching concept

Distributed teaching

The didactics

Needs and Technical aspects

Future aspects

Three docents at three universities in three federal states!



"MiSS BBT"

Master in Survey Statistics Bamberg/Berlin/Trier



Freie Universität



Berlin



Universität Trier

Freie Universität



Berlin



Universität Trier

Three professors with different profiles

- Susanne Rässler (Bamberg): Bayesian Statistics, Multiple Imputation, Item Nonresponse, Statistical Matching, R
- Ralf Münnich (Trier): Small Area Estimation, Variance Estimation, Simulation, R
- Ulrich Rendtel (Berlin): Panel Surveys, Weighting, Unit Nonresponse, SAS

The joint teaching program

university	summer term	winter term
changing		Introduction to sampling theory
Bamberg	Seminar on Item Nonresponse	Bayes Statistics and Multiple Imputation
Berlin	Calibration and Weighting	Panel Surveys or Survey statistics with SAS
Trier	Variance estimation	Small Area Estimation or Introduction to Monte Carlo Simulation

Teaching in 3 different federal states (1/2)

In Germany education is regulated by the federal states with separate legislation. This results in different admission rules, study fares, semester intervals, examination rules, etc.

Consequence: It is not possible to run this master program under a **unique** legal frame (Studien- und Prüfungsordnung)!

Therefore: The joint teaching is integrated into 3 independent master programs:

- Bamberg: Master in Survey statistics
(<http://www.uni-bamberg.de/miss>)
- Berlin: Master in Statistics (<http://www.stat.de/en/>) This is a general statistical program where survey statistics was integrated as one out of 5 specialisation fields.
- Trier: Master in Survey Statistics
(<http://www.uni-trier.de/index.php?id=36139>)

However, there is a joint internet platform with the joint timetable.

<http://master.surveystatistics.net/MiSS/lehre.html>

Teaching in 3 different federal states (2/2)

- Different term schedules between states, different holidays.
- Because of a missing joint legal frame: no mandatory status of examinations outside the state.
- Different learning management systems at each university. (Stud.IP (Trier), Virtual Campus (Bamberg), Blackboard (Trier))
- Different agencies for the accreditation of the master programs.
- At the moment (after 3 years) no formal cooperation treaty between universities.



Teaching channels

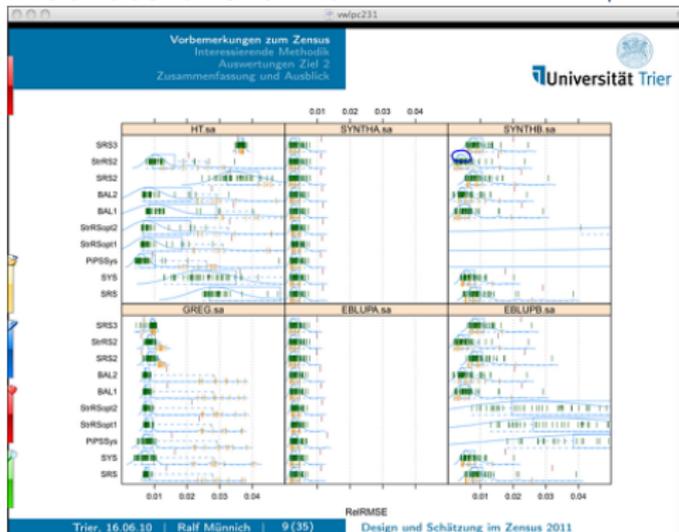
- Visual, audio **and** separate blackboard channel!
 - Classical video conference (Conference node at Trier)
 - Virtual Network Computing (VNC) (Freeware: VNC viewer and server)
- Bi-directional teaching to enforce interaction
 - Tablet PC with PDF annotator software (70 Euro)
 - Still some time lag in transmission of screen.
- Occasionally: joint meetings (seminar in summer term)

The 2 screens (1/2)

Blackboard Channel

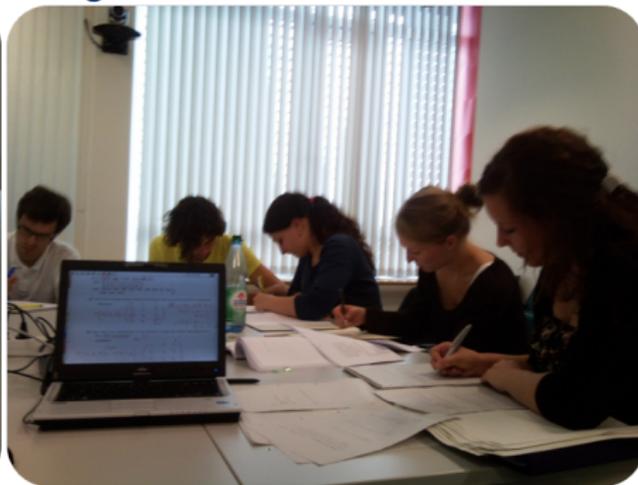
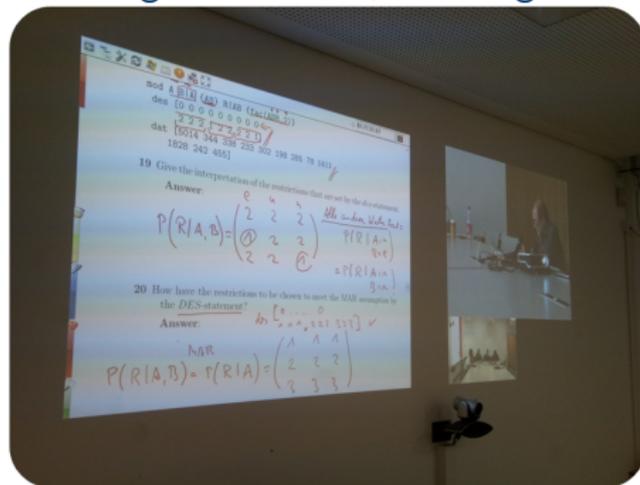
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video conference

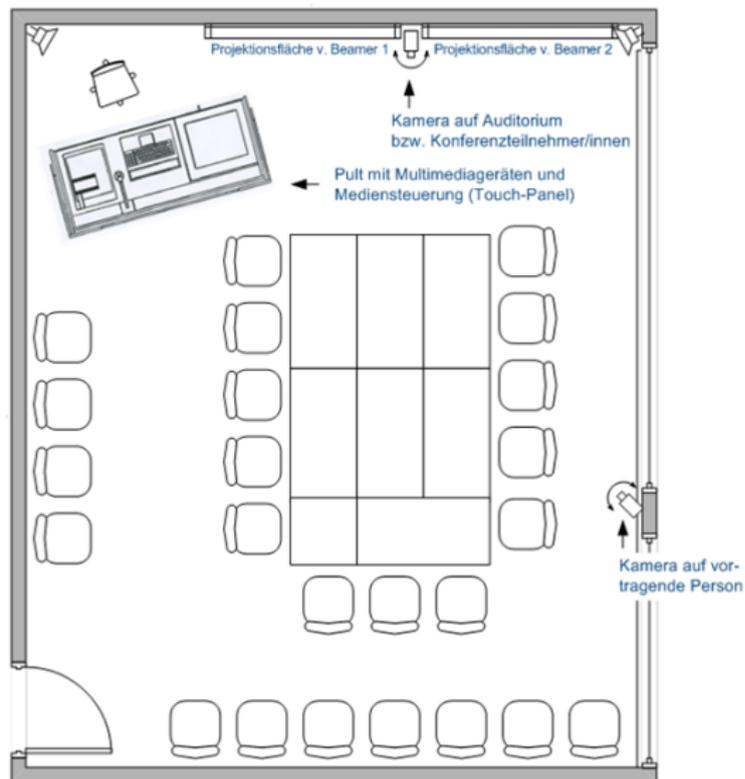


The 2 screens (2/2)

Teaching from Berlin, listening in Bamberg



The Bamberg studio



A dynamic video screen

A software (Polycom) regulates the different screens of the video conference:

- The teacher gains 2/3 the area. The "most active" listener gets a larger part than the more quiet listeners.
- At the teaching site only the listeners sites are displayed, with emphasis to the most active listener.
- There are limitations to the number of listening sites, simply by the screen area.

A different teaching style

- The teacher should be more present at the blackboard channel. He should not walk around the classroom and explain with gestures.
- The students should not talk with low voice, as the microphone will not transmit their contribution.
- The students should dare to use the tablet screen (rather seldom up to now).

The background of the project

The Teleteaching concept

Needs and Technical aspects

Needs

Technical Aspects

Future aspects

Needs of resources

- Three rooms with video conference equipment at **all** sites at the **same** time (Mo 12-16, Tues 14-18, Wed 12-16).
Universities will provide such facilities in general. It only the problem to get fixed slots.
- Technical staff for the video equipment and room access.
Such staff is present at central facilities.
- Student assistants for the tablet PC's and the running of the VNC.
Often some participant of the class has taken over this responsibility.

Technical aspects

- The whole system is sensitive with respect to technical failures! Meanwhile some routine has been established.
- At the beginning in winter term 2010/2011 all kind of technical failures occurred!
 - VNC + connectivity: firewalls, internet access, etc.
 - VNC + screen and beamer resolution
 - VNC + tablet calibration
 - Acoustic feedback and microphones
 - Lightening of rooms
- The students were very patient in case of technical problems.

Podcasting

- Production of a video stream of the blackboard channel plus voice.
- Easily done with CAMTASIA software (100 EURO): 90 minutes = 1.2 GB
- Downsizing to an MP4-file: 70 MB
- Download via Internet for class participants

Extension of the network?

- Technically easy!
- More coordination needs with each additional partner.
- Until now: German language is used.
- Non-academic partners: German statistical office showed interest.