Teaching Quanti

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Our discussion starts with two contradictory findings:

- Learning quantitative methods? Bof!
  *Students in social sciences dread or despise quantitative methods*

- Reflect on pedagogy of quantitative methods? Re-bof!
  *Reflexivity about teaching quantitative methods is poor among social scientists*
Teaching quanti in social sciences journals

- In *Social Science History*, 0 article in 13 years
- In *Sociological Methods and Research*: 0 article in 40 years
- In *Quality and Quantity* (Springer): 4 articles in 45 years
- In the Anglo-French *Bulletin of Sociological Methodology* (Sage): only 3 articles in 30 years that relate to teaching issues, either quantitative or qualitative.
- In the French *Histoire & Mesure*, 0 articles in 12 years
- In *Sociological Methodology* (ASA): 0 article in 15 years.
Quanti-related articles in *Teaching Sociology*
Our track records in teaching quantitative methods

Claire:

- 10 years to MA and PhD students in history and social sciences at the ENS Paris
- 5 years to MA students in history in Sciences Po Paris
- 3 years to L3 (3rd year of college) students in humanities (geography, literature, antiques sciences) in collaboration with a statistician
- Various participations to summer schools in quantitative methods, especially in longitudinal analysis (most recent: Quantilille 2011).

Pierre:

- 5 years to high school students
- 3 years to L1 (first year of college) students in sociology at Lyon-2 University
- 10 years to MA and PhD students in social sciences at the ENS Lyon, sometimes in collaboration with a physician
- Various participations to summer schools in quantitative methods, especially in social network analysis (most recent: Quantilille 2013).
1. Why teach quanti?
2. Who, and how?
3. What?
Why? Out of necessity

Types of data in ASR articles (1930-2011)

Source: Ollion, 2012
Why NOW?

- Because it’s time to end the quantitative history crisis
- Because hardware has never been so accessible
- Because software has never been so accessible
  - Excel has helped democratize data analysis
  - “push-button” software social scientists, such as IBM’s SPSS.
  - In France, many full survey processing solutions have emerged, that are widely used, such as Modalisa, Sphinx, Ethnos.
  - The R revolution: the most powerful solution is now free and collaborative, instead of expensive and locked.
- Because data have never been so abundant
  - The irrepressible penetration of digital devices in everyday life produced unprecedented amounts of “digital traces” left by individual activities.
  - Web scraping techniques and tools to harvest these traces have open “statistical Eldorados” to social scientists.
  - Web-based surveys drastically reduce costs of data gathering. See ELIPSS, a French initiative that offers a 5,000 person touchpad longitudinal survey panel to French social scientists free of charge.
  - Increasing numbers of historical data sets: TRA Survey (France), US Census, etc.
  - Data curation and access has been favored by the emergence of institutions such as ICPSR, or the Réseau Quételet in France.
Who, and how?

- Teach quantitative methods to heterogeneous audiences
- Struggling with math anxiety (Paxton, 2006; Van Gundy et al., 2006; Decesare, 2007; Macheski et al., 2008)
The French social uses of maths

“Sociology students usually don’t like math, and that can be easily explained: as shown by the sociology of education, they have been forced during high school to shift towards literature or social science curricula, due to their low scores in mathematics. **To perform this social sorting, math teaching in high school is characterized by high, efficient and deliberate levels of abstraction:** thus, it succeeds in persuading a lot of people that they are clueless in mathematics, that it’s not their thing and other ex post rationalizations meant to account for what is often experienced as a humiliation and a failure. This is a French specificity, and a quite recent one, and I hope it won’t last eternally: in many countries, math courses are simply meant to teach math, not to sort and select students. Thus, students in English-speaking countries have fewer difficulties to learn quantitative methods than their French comrades, who are often paralyzed by any presentation that would recall too bad memories.”

How would you teach the chi-squared test?

Mathworld: [http://mathworld.wolfram.com/Chi-SquaredTest.html](http://mathworld.wolfram.com/Chi-SquaredTest.html)

David Wee’s blog: [http://davidwees.com/content/teaching-chi-squared-test](http://davidwees.com/content/teaching-chi-squared-test)
How would you teach factor analysis?

What?

• Adapt tools to audiences
  o Whenever possible, favor free software solutions to allow students to go on using them once class is over..
  o Students that dread math may also dread script-based software. Adapting tools to audiences means choosing push-button solutions with quanti-phobic audiences.
  o Don’t neglect that you can do a lot of things with EXCEL cross-tabulation functions, or the free template NODEXL for social network analysis.

• Use real rather than fictitious data sets
  o ICPSR: http://www.icpsr.umich.edu
  o CPANDA: http://www.cpanda.org
  o CESSDA: http://www.cessda.org
  o UK Data Archive: http://www.data-archive.ac.uk
  o Réseau Quételet: http://www.reseau-quetelet.cnrs.fr
  o INSEE Fichiers Détails: http://www.insee.fr/fr/bases-de-donnees/fichiers-detail.asp
A historical survey of the French Members of Parliament
Input, categorization and ... the issue of racism
40 years of French musical tastes

1973

Q47 – Quels sont les genres de musique que vous écoutez le plus souvent ?
- Chansons ou variétés françaises
- Musiques du monde ou musiques traditionnelles
- Variétés internationales, R’n’B
- Musiques électroniques, techno
- Hip-hop, rap
- Métal, hard rock
- Pop, rock
- Jazz
- Opéra
- Musique classique
- Autre(s) genre(s) de musique : le(s)quel(s) ?
  - Aucun
  - NSP

2008
Use of regression models in ASR articles (1930-2011)

Persecution trajectories of Lens Jews (N=991)

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Distribution of States 1940-1945

**Note:** The table above shows the estimated effects of various variables on the trajectory of Lens Jews during World War II, with the significance levels indicated by the p-values.
Thank you!

If you want to teach statistics to social scientists, you’d better be a social scientist yourself...

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Slides and references can be downloaded here:
http://quanti.hypotheses.org/910