MAKING HISTORIANS COUNT

A CATALOGUE OF TEACHING AND LEARNING ACTIVITIES THAT INTRODUCE QUANTITATIVE SKILLS FOR HISTORIANS WITHIN REGULAR HISTORY COURSES

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Abstract

As historians gradually become more acquainted with mixed-methods approaches, including both quantitative and qualitative methods in research, the teaching of the quantitative skills required to carry it through needs to be also included in the curriculum. This effort, though, faces many challenges stemming from the difficulty of integration of quantitative skills in the teaching of historical topics and the student prejudices and reluctance to engage with this type of material. This catalogue presents reflections on the pedagogical considerations of teaching quantitative skills for historians, the results of my experience engaging with the challenges it poses and a catalogue of a selection of the TLA's that I developed in the context of my teaching in order to teach historians quantitative skills as inspiration or examples that can be used to overcome these challenges.

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Making historians count: a catalogue of Teaching and Learning Activities that introduce quantitative skills for historians within regular history courses

The world of the citizen-historian of the 21st century is filled with quantitative data. Satisfaction surveys, electoral polls, the findings that support our concerns over most social and health problems and politicians and journalists discourses are filled with it. But quantitative material is also present in our daily lives as historians: library catalogues are databases, the yearly accounts and reports from the archives are filled with statistics we need to carefully understand, many of our peers produce new estimations we need to incorporate into our understanding of the past and, most recently, major digitation processes undertaken by archives and museums with the collaboration of volunteers have put digitation and actual databases of millions of records of individuals in the past in our desktops.

In recent years, new generations of mixed-methods researcher in History have shown the essential and complementary nature of qualitative and quantitative research in bringing historically nuanced and rigorous views on the past. However, while the citizens-historians we train in our History programs are experts in cultural analyses and critical thinking, their skills in dealing with quantitative data from a historical perspective are not fully in par.

While most students declare their support for interdisciplinary, students often approach quantitative analysis with fear and apprehension, and are easily disheartened in its pursuit. In some cases they also show indifference and outright rejection, buying into the useless Humanities vs. Science dichotomy. Part of the explanation lies in the way that teaching of quantitative techniques is placed in the curricula: in single one-time short courses, with the contents and inspiration hardly ever to be revisited later. If traditionally "historical skills" are spread out across the full curriculum, these other type of complementary skills, quantitative skills for historians (QSH) need to be taught similarly, with little bits of quantitative skills training in general courses, where they show the full extent of their importance, as suggested by Freeman (2010).

However, integrating small amounts of training on quantitative skills into regular history courses faces several challenges. The first one is overcoming student fear and/or rejection, requiring teachers to find ways to gently get students to open their minds and embrace these additional skills. Another one is time concerns within the class and the balance between content and skills. Finally, its effect need to be taken into account: will students actually be able to generalize from these subject-specific "spread out" interventions and incorporate them to their historians skill set or will they be abandoned afterwards?

As a passionate mixed-methods researcher in history and currently involved in teaching, I decided to take on these challenges and develop my own approach to the introduction of training on quantitative skills into my teaching of History at the Saxo Institute as the course project within the Teaching and Learning in Higher Education Programme in the year 2014/2015. In particular, through my involvement in the preparation and teaching of two courses: I taught a regular Master level history course called "Changing bodies, changing choices: mortality, fertility and family transitions, 1750-2015" in the spring 2015 where I developed several TLAs (Teaching and Learning Activities) to introduce quantitative training to my students besides the general course themes. Additionally, I have been involved in the preparation of a methods class for History for the themes of history of the body, public health and population (as part of the the course "Kroppenes politik,

kroppenes historicitet i Danmark og Sverige cirka 1700-196”0) for the fall 2015 for which I have developed additional TLA’s under the same inspiration. This catalogue is the result of my work on the pedagogical considerations of teaching this type of material for students, my experience and reflections facing these challenges and a concrete catalogue of a selection of the TLA’s that I developed in the context of my teaching that could be used by other teachers as inspiration/examples in order to overcome these challenges.

So, the structure of this guide is as follows: the next pages provide an overview to the parameters of my endeavour: why it is important, what I think that needs to be taken into account to carry it through, its results and why I think that the effort is scalable. The rest of the document offers a selection of TLAs designed for the study of the history of population and health/mortality that I think could easily be adapted to other subjects and issues. They are divided according to four main themes, which respond to four different levels of ILO’s (Intended Learning Outcomes) in the interaction of students with quantitative material from mere familiarity with notions and concepts to fully working with data in various levels (macro or micro).

1. WHAT ARE QUANTITATIVE SKILLS FOR HISTORIANS?

I borrow from Freeman (2010) the term “quantitative skills for historians” (QSH) to refer loosely to a set of skills that allow a successful interaction with both the quantitative material in historical sources but also with the quantitative evidence that surround us all nowadays in our daily lives. This last part is generally considered under other terms such as statistical literacy, quantitative literacy or numeracy by the literature on teaching secondary and higher education for mathematics and statistics but I prefer the first one because it focus the emphasis on the historical sources, that, in fact will lead to a more thought interaction with daily life statistics, as historical sources require an even more critical and careful examination of the data provenance: who, why, who the data was produced and, consequently, what we can learn or not learn about what we see or not see, etc.

Additionally, in contrast with other concepts used in relation with history, such as historical numeracy, dataracy, etc. the use of “quantitative skills” suggest that it is just another type of abilities that historians can put into practice for historical sources, not changing the nature of the historical work, just offering a different way of performing it. Skills considered here range from just critical thinking about quantification to actual data manipulation and descriptive analyses with Microsoft Office Excel, wich is the most widely used (and user friendly) software for this kind of introductions[1]. However, QSH are in fact need to be taught in other to develop competences in two levels: a “quantitative competence” (i.e., what is an average and how to compute it) and a “historical competence” (i.e., why should you use the average for a particular research and data, what is its meaning, what are the problems of interpretation for the historical issue at hand).

2. FIVE REASONS TO TEACH QUANTITATIVE SKILLS TO HISTORIANS

1. The society of the 21st century is full with data so all citizens need to have basic abilities to interact with it, however it presents itself: daily life, at work, etc…. so, the university, as educator of future workers and citizens, has a role to play in training individuals to better deal with it (Freeman 2010).

[1] Inference and modelling need to be taught on separate courses, as the learning curve is too steep for regular courses.

2. Evidence subject to quantification is among our main sources, whether we study or not, so we should take advantage of all the tools, skills and ways to extract the best information out of them (Floud 1973). In fact, historical evidence is so scarce that we cannot afford to waste it.

3. We need to extend the knowledge to ensure the ability to engage critically with quantitative data is not only in the hands of a small group of scholars (or even rely on external communities) (Hudson 2000). It is dangerous for a community to need to rely uncritically (for lacn of training) on the abilities of a few.

4. There is a wealth of new sources of data that have become available in the last decades by digitalization and data entry efforts by cultural heritage institutions that has put hundreds of texts and records at the reach of the historians (Anderson). It is our duty as historians to extend to fully investigate it with the appropriate techniques.

5. Other disciplines may want to use historical data for research (from Politics, Demograahy, Economics, Epidemiology, Education, etc.) and may not be so sensitive to source problems and potential pitfalls, so it is essential that historians are able to position themselves as the first-line experts to ensure good quality scholarship and truly interdisciplinary work.

3. WHAT DO WE NEED TO TAKE INTO ACCOUNT IN ORDER TO SUCCESFULLY TEACH QSH?

The inclusion of QSH in a given course needs to be aligned with both the ILO's and AT's as any other TLA's (Biggs and Tang 2011) but I think that if the introduction of QSH as a widespread training across the whole degree is to have any effect, it needs to be specifically acknowledged in which degree it will be introduced in any given course. In that sense, the Intended learning outcomes must include a concrete mention of the type of quantitative engagement teachers want their student to attain (for instance, recognize quantitative patterns, compare methodological approaches, perform and interpret given analyses) through the specific TLA's and also include in the assessment a reference to both competences involved in a meaningful way (assessing both the "quantitative competence" and the "historical competence over the quantitative number") to avoid a backwash effect: if only the quantitative competence is assessed, it is likely that student will not fully develop their historical competence.

Additionally, I think there are several considerations to bear in mind when designing a course that will train QSH:

- The TLA's that engage on quantitative thinking/analyses must be completely integrated with the teaching of the subject matter, so its historiographical relevance is highlighted and its need imprinted on students. They cannot look like chores or meaningless task. They could start with a reading or with a problem formulation that leads to the activity, which could be focused on either a historical context or even in aspects from the contemporary world and society.

- The activities need to be undertaken with a focus on the specific challenges in relation to students attitudes. Teachers needs to first awake interest, battle fear and/or overcome reluctance and, later, build confidence, develop critical thinking and interdisciplinary interest. In order to do that, the focus should be on:

- Taking into account student needs and help them through the construction of a safe

environment for learning, creating a "community of learners".

- Provide feedback in a way that allow them to self-regulate in both level of competences (quantitative and historical), particularly in the most difficult TLA's.
- Balance support with independence-fostering: initially student will be fearful/insecure/reluctant and they may need more attention, so it is key to respect their pace of learning. However, they will only be able to bring the knowledge into the future (class and life) if they have to develop their own ways of working out the historical problems.
- Authenticity of the tasks themselves but also in assessment is key to to build confidence: if students can be assessed on skills applied in a meaningful way they will be much more eager to engage in them. In the TLA's listed here, there are not many explicit mentions to AT as teachers will be much more able to decide to what extent specific TLA's should be assessed (with submissions and such) or whether a more informal assessment. In general, last minute paper, Socrative multiple choice question, posters, etc could be used for most of them.

- Passion and conviction about interdisciplinary is difficult to ask as a pre-requisite a teacher in a given course but it is really a precondition for success in the face of a student perception of difficulty or unattainability of goals. A certain degree of rallying the students is needed.

4. DO STUDENTS LEARN QSH?

The students in my course did. The ILO's of my course were: "Identify and discuss the theoretical and methodological challenges in the study of historical population trends; Evaluate critically the contribution of different disciplines to the topic of population change; and Apply different methodologies to the analysis of vital events", I carried out 11 TLA's from the catalogue (3, 4, 6, 7, 8, 9, 12, 16, 18, 19, 20) and I evaluate their success in two ways. First, by their responses to the final question in the final class: "What has been the impact of the course in your view of history?" The replies of 4 out of 5 students present show evidence of learning QSH:

- "It has encouraged me to not totally shy away from statistics and data!"

- "Showing me clearly how economics, sociology and economic history can be used to further our knowledge of historical demography and statistical trends in regards to various areas."

- "It has forced me to consider a greater number of quantitative approaches and the challenges that come with them (methodological questions, biases of sources, individual vs. aggregated data, etc.).

- "Huge impact in my understanding of the history of population, and the different dynamics that affect lives. It has also made it more clear to me, how there is a relationship between different kinds of time (the Annales school and Braudel); the structural and individual choices."

These replies belong only the 50% of students attending regularly my class so my second way of assessing the effect is through the examination of their engagement with the discussion of numbers and statistics in their essays and synopsis of oral exams (I could not change them). From its use in their discourses, I can say that the course did make them think about numbers and become receptive to the need of incorporating them into their discourses as a reference or as a criticism when discussing population history issues and long-term trends.

The question remains, though, whether this will affect their future career as History students. I am hopeful that overcoming the fear of statistics and opening their minds about its importance

cannot be unlearnt even if QSH are not actively used in the rest of their education.

5. CAN WE TEACH ALL STUDENTS QSH?

The selective composition of my class (heterogeneous in academic level, nationality and background) is a potential problem for assessing the scalability of my initiative. However, I think that some of student attitudes and previous knowledge seemed very similar. A small survey carried out to compare their views towards interdisciplinary research in comparison with two groups of Danish speaking students (a complete hold in their 4th semester and a course preparing for their Master thesis) revealed some differences but nothing that suggest they are completely different type of students. General interest towards interdisciplinarity and its use was higher among Master students, maybe explained by a higher number of years in higher education or age, and the study group fell roughly in the middle (figure 1)[2].

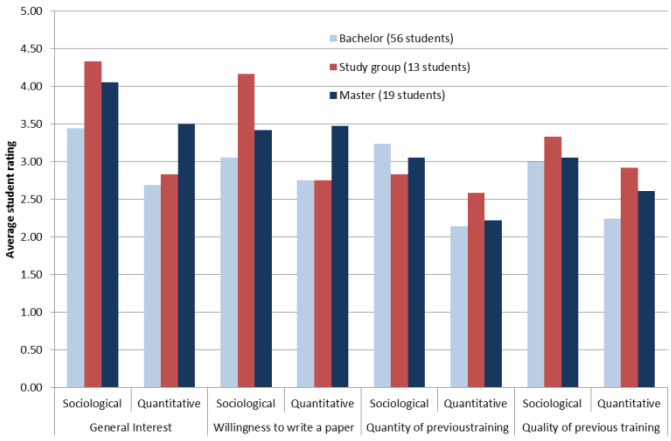


Figure 1. Average rating of students to general questions on interdisciplinary

The different rating to quantity and quality of the training received in other approaches was roughly similar for BA and MA students, but substantially higher for my group, which could be explained by differences with their home educational systems.

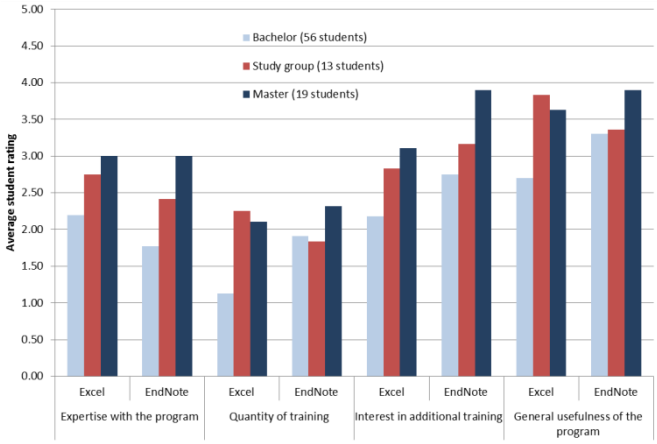


Figure 2. Average rating of students on use of two specific programmes

However, while the study group may have perceived higher quality and quantity of training, their ratings of their expertise, training and interest with Microsoft Office Excel are not that different (figure 2). So, my answer on scalability is yes: we could teach QSH to all History students at the Saxo Institute within regular courses. They do not seem opposed to the training and some of the following TLA's that I designed and tested could be a possible way to do it.

[2] Formulation of the questions: "Rate 1-5 your opinions on these different perspectives: Sociological perspectives, quantitative analyses. A) General interest in the approach (1-Not interested, 5-Very interested); B) Quantity of training during the degree (1-Nothing or almost nothing; 5-Excessive); C) Quality of training during the degree (1-Very poor; 5-Excellent); D) Willingness to write an essay using these perspectives (1-Unwilling; 5-Very willing)" Formulation of the questions: " Rate 1-5 your opinions on these programmes: A) Expertise in them (1-Never used it, 5-Confident user); B) Quantity of training in them during the degree (1-None, 5-Excesive); C) Interest in learning more about them (1-Not at all; 5-Very interested); D) Usefulness for study & life (1-Not useful at all; 5-Very useful)

6. STRUCTURE OF THE CATALOGUE

In the following pages, this catalogue lists a selection of designed and tested TLAs for QSH that can be used in theme courses in History. For all of them, specific ILOs, aims, format, sequence and student feedback and results are described.

The first one “Framing the effort” consists on activities designed just to elicit changes in the consideration of what is quantification and its importance through activities familiar to historians, which could be virtually usable in any type of course where it is possible to consider quantification and time trends. The second implies a step forward, with a first contact with aspects of quantitative training but without requiring students to perform any analyses and, in contrast, the third and fourth sections, offer examples of exercises on data analyses, some of them using Microsoft Excel, the software easier to use for basic quantitative analyses.

Getting started, theme #2, has some activities on critical thinking, idea-generation and introduction of mixed-method approaches to essay and Master thesis writing as well as two TLA’s that use Excel to support research. Most of these could also be used by virtually any field. Theme #3, on data analyses on time trends and aggregated data and more reworking is needed to find specific examples. Finally, theme #4 deals also with both conceptualization of individual data and it is suited to research that deals with lifecourses and individual level data in a large scale.

7. LIST OF TEACHING AND LEARNING ACTIVITIES SUGGESTED

THEME #1: FRAMING THE IMPORTANCE OF QUANTITATIVE HISTORY

TLA #1: BECOMING HISTORIANS OF THE 21ST CENTURY

TLA #2: FINDING NUMBERS IN "NORMAL" HISTORY

TLA #3: FITTING INTO THE HISTORY OF X…

TLA #4: USING MULTIPLE-ANSWER QUESTIONS IN SOCRATIVE TO INTERACT WITH POLL

THEME #2: GETTING STARTED

TLA #5: ANALYSING LITERATURE WITH QUANTITATIVE ANALYSES

TLA #6: IDENTIFYING DATA AND METHODS FOR A TOPIC

TLA #7: DESIGNING MIXED METHODS RESEARCH PROPOSALS

TLA #8: CAUSALITY AND THE ECOLOGICAL PARADOX

TLA#9: LEARNING "STATISTIS-QUESE": HOW TO READ MULTIVARIATE ANALYSES WITHOUT KNOWING STATISTICS

TLA #10: MEASURING OUR OWN CHOICES AS HISTORIANS

TLA #11: INTRODUCING SYSTEMATIC ANALYSIS OF QUALITATIVE SOURCES

THEME #3: DESCRIBING TRENDS

TLA #12: COLLECTING PUBLISHED DATA, REPRESENTING AND UNDERSTANDING BASIC STATISTICS

TLA #13: COMPARING POPULATIONS

TLA #14: COMPUTING MEASSURES AND INTERPRETING MACRO DATA

TLA #15: AVOIDING THE MIS-USE OF GRAPHS AND TABLES

THEME #4: FOCUSING ON INDIVIDUALS

TLA #16: CLASSIFYING INDIVIDUALS TO ADDRESS RESEARCH QUESTIONS

TLA #17: FINDING QUANTITATIVE SOURCES ON INDIVIDUALS TO ANSWER NEW RESEARCH QUESTIONS

TLA #18: FROM SOURCES TO THE DATABASE: HOW TO ENTRY INDIVIDUAL LEVEL DATA

TLA #19: ANALYSING INDIVIDUAL LEVEL DATA WITH EXCEL

TLA #20: USING INDIVIDUAL LEVEL DATA ANALYSIS WITH EXCEL TO ADDRES A RESEARCH QUESTION

THEME #1: FRAMING THE IMPORTANCE OF QUANTITATIVE HISTORY

TLA #1: BECOMING HISTORIANS OF THE 21ST CENTURY

INTENDED LEARNING OUTCOMES: Students will be able to recognize the use of quantitative material in the society and in history in a very general way and discuss its need.

DESCRIPTION: Students are invited to familiarize themselves with the presence of quantitative material in their everyday life and in history by looking at common places in order to awaken their interest in quantitative skills and attract them to further work in that line.

FORMAT: Lecture, home assignment and class activity.

SEQUENCE:

- **Presentation** (20'): Presentation about the historiography of quantitative history, the 21st century and the pervasiveness of data for historians, the digitalization processes that create new material for us (scanned texts, records and archives by genealogists, etc.), leading to some formulation of the need to be historians of the 21st century who are able to engage with these technologies.
- **Home assignment:** students are asked to share with others in the Absalon forum examples of quantitative material and how it is used in the everyday life by the press, television, etc… about any types of issues. But, in particular, pay attention to any type of quantification of historical issues that is used for the purposes of the present. And look what the others have done.
- **Class exercise** (15'):
  - Teacher recap: ties these results with previous class (5')
  - Plenary discussion answering the question: What do you think about it as historians? (5' with partner + 10' in plenum)

STUDENT FEEDBACK AND RESULTS

I have frequently used the narrative of the "Historians of the 21st century", that is, telling students that they have the moral duty to make better history taking advantage of all the new knowledge, possibilities and sources of data and it has proved to be very effective. It precisely positions students in a space that acknowledges them as students of History but it sets the necessity and the feasibility of adopting these old techniques in a new way, declaring not only that they are able but their professionalism depends on it. It places the effort within the scope of their abilities, fostering confidence.

Making the students use the forum is not particularly easy as they are not particularly interested in interacting with each other outside of the class other but it provides a place where it is possible to share information. I think that engaging them in long-term use may be hazardous but I see it feasible in a small-scale exercise such as this one, where they are not required to follow the forum but just to interact with it in this single point in time.

THEME #1: FRAMING THE IMPORTANCE OF QUANTITATIVE HISTORY

TLA #2: FINDING NUMBERS IN "NORMAL" HISTORY

INTENDED LEARNING OUTCOMES: Students will be able to recognize the use of quantitative material in historical texts and discuss its need.

DESCRIPTION: Students are asked to read a passage of a text of "normal history" and look for the presence of quantitative statements to direct their attention to its widespread presence and awake their interest in it.

FORMAT: Class activity.

SEQUENCE: This is a variation on an example given by Freeman (2010)
- Distribute a short text as a hand-out: it could be on a normal and perceived "soft subject", such as leisure and recreation. This example is from John Stevenson's *British Society 1914–1945*, in the Pelican Social History of Britain series:

> One of the most important developments in twentieth-century society has been the growth of leisure and recreation. Already by the Edwardian era, many pastimes and pursuits had been fashioned or transformed to meet the needs of a primarily urban and industrial society. In sport, entertainment and private recreations, one of the major driving forces was commercialization, drawing upon the increased spending power of a mass consumer market. Another was the increased leisure time available as a result of shorter working hours, paid holidays, longer life expectancy after retirement, smaller families and, for some, enforced idleness through unemployment. But the growth of leisure illustrates more than commercialism and more free time from work. With the growth of the media, it was part of the development of a more uniform and homogeneous society, partaking of an increasingly common culture. Notwithstanding regional and class differences, by 1945 only the remotest parts of Britain were insulated against the pervasive influences of the latest popular tune or major sporting event. In contrast, some aspects of leisure, particularly those centred around hobbies and domestic life, reflected an increasing homecentredness. The two themes of an increasingly common culture, balanced by the cult of domesticity and individual choice, dominated the development of leisure in this period.

- Individual work (5'): Ask students to highlight the quantitative statements on their own
- Pair work (5'): comment with partner
- Go through the text in class and comment them (10-15'):. Some questions that can be raised:

- Are they all similar?
- Which quantification is obvious? Longer life expectancy, shorter working hours and increased spending power.
- Which show changes that are quantifiable, at least to an extent?
- Which are the most subtle: What is remotest? What is the criteria to identify a tune as popular, a sport event as major?

STUDENT FEEDBACK AND RESULTS

I have not used it yet but Freeman reports good results and I will be using it in my next course as it can be used as an introduction to the pervasiveness of quantification. In fact, I see with two potential uses, on the one hand as a perfect candidate to be used in any class, changing the text to something meaningful to the course to raise the issue that even for topic X where there does not seem to be any "hard" quantification, researchers quantitative statements.

THEME #1: FRAMING THE IMPORTANCE OF QUANTITATIVE HISTORY

TLA #3: FITTING INTO THE HISTORY OF X…

INTENDED LEARNING OUTCOMES: Students will establish a personal relationship with the subject and be differentiate macro and micro levels in the interpretation of the phenomena at hand.

DESCRIPTION: Following a mini-lecture describing the lives of a family over several generations during the demographic transition, students are asked to repeat the exercise for themselves, making them confront their individual experience and that of their classmates with the declining fertility and mortality trends. Its use for other topics only relevant for recent periods, in aspects such as political history, education, social mobility, changes in legislation, etc.

FORMAT: Class activity (and possible follow up assignment).

SEQUENCE:

- **Pre-assigned reading:** Livi Bacci (2000).
- **Presentation** (15'): on a personal family history from the late 19th century up to today, where the emphasis is placed on how the experience of mortality, fertility, family composition, migration, etc. of individuals fits (or does not fit) the macro trends. The main slide is a plot of the Demographic transition with the lives of the ancestors discussed.
- **Pair work**" (5')**:** "The Demographic Transition and You". With a hand-out of the demographic transition of Denmark (or their own country) students have to plot their family history and talk to their neighbour about these questions:
    - What did you know before about your family and the DT in your country? How many generations can you reconstruct?
    - How are your life and that of your grandmother/father different? In age at marriage/remarriages?; in family size (desired vs. attained); employment history; health and age at death (and infant deaths); migration histories, etc.
    - Does your "family evidence" fit the graph?
- **Plenary** (10-15').
- **Potential follow up:** a home-assignment could be based on this one, asking student to write a short piece on this issue, asking them to investigate more concrete information at the macro level (published statistics) and their family history (by interviews with their family members).

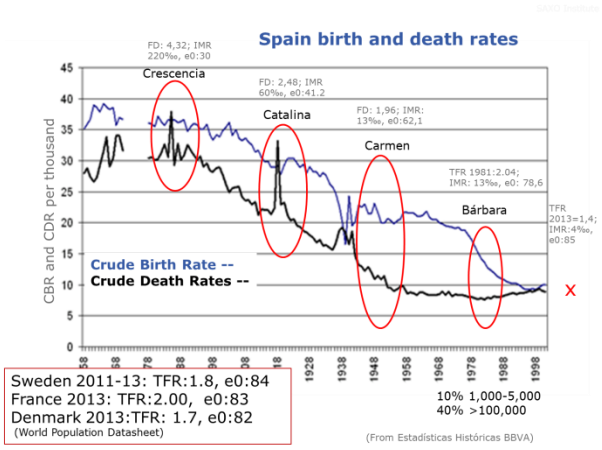


Figure 3. Main slide that exemplifies the teachers' family history that the students need to replicate

STUDENT FEEDBACK AND RESULTS

I tested this activity in two different groups and was very successful in both, bringing the students to think about the subject in relation to their own family history (which is topic specific) but also easing them into consider numbers in a soft way and awake them to the challenges of relating the changes in trends with the changes in individual behaviour/experience as not all family histories fit the "general narrative". In an international class, it had the added value of introducing the variability of experiences in different countries and acknowledging that students could bring knowledge that could benefit the others.

THEME #1: FRAMING THE IMPORTANCE OF QUANTITATIVE HISTORY

TLA #4: USING MULTIPLE-ANSWER QUESTIONS IN SOCRATIVE TO INTERACT WITH POLLS

INTENDED LEARNING OUTCOMES:
Students will be able to interpret polls results and discuss results in the context of their knowledge and use them to self-regulate learning.

DESCRIPTION: Students reply through their electronic devices to multiple-response questions in Socrative polls to explore their view on issues or how they are performing in the class.

FORMAT: Class activity.

SEQUENCE:
- **Present a Socrative question with multiple-responses to the class:** ask students to vote through their electronic devices; students are asked to vote but no clarification on the question is given (if relevant, students can confer with their partner); class results are shown; class discussion on the point of interest.

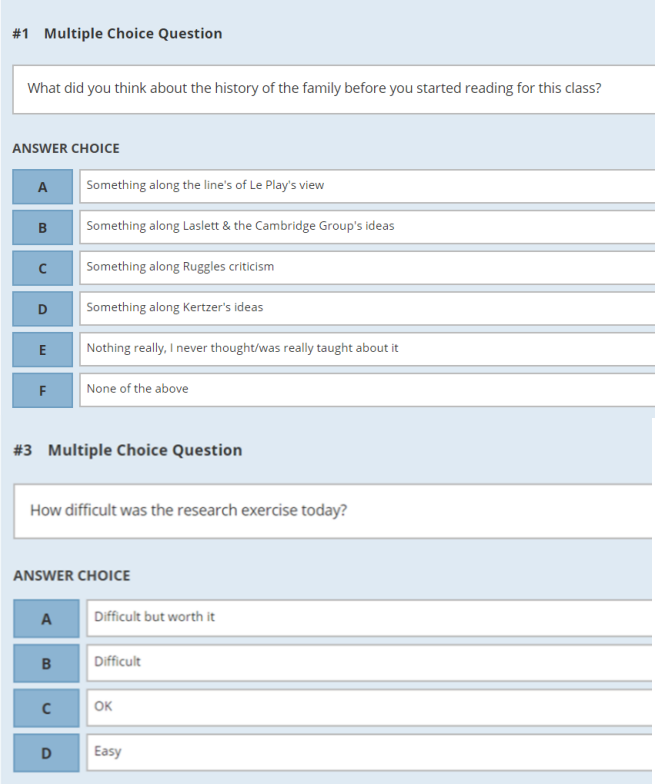


Figure 4. Socrative multiple choice questions for the two examples

- **Particular examples and objectives:**
  - Using the replies form students explore pre-conceptions: students are asked to report how they saw a particular topic prior to the class and there is a class discussion on the misconceptions of the scholarship and the reasons for that.
  - Self-regulation: students are asked to assess the difficulty so they can find how they are feeling in comparison with the class without having to voice it.
- **Additional dimension:** In both cases, the examination of the objective results of the poll may be followed by a class discussion on the framing of the questions and how they affect the answers provided: are they fair or manipulative? Do the results inform more about students or about the teacher's interest?

STUDENT FEEDBACK AND RESULTS

These two interactions with polls focus on the objective knowledge that students could obtain from quantifying their responses but also a little on the questions themselves. The first example induced very interesting reflections on historiographical changes and the reasons that misconceptions are created and maintained and students engaged in a lively debate

The second one has proven very good for monitoring their progress and difficulty (particularly for the teacher) but hopefully also for students. In particular, these types of questions were used in connection to exercises that were anticipated to be perceived as challenging, so it proved a very good tool to tune content and react accordingly to the majority feeling.

THEME #2: GETTING STARTED

TLA #5: ANALYSING LITERATURE WITH QUANTITATIVE ANALYSES

INTENDED LEARNING OUTCOMES: Students will be able to apply analytic skills to literature that uses quantitative techniques and discuss the adequacy and validity of different methodological techniques.

DESCRIPTION: Students have to read an article/book chapter on the subject of the course that includes some measure of quantification (decided by teacher) and submit a one-page report on the data and methods used, balancing pros and cons and comparing it literature from the reading list or course contents.

FORMAT: Home assignment and class activity.

SEQUENCE: (inspired by Freeman 200)

- **Home assignment:** Students choose at text from a teacher pre-selection o f3-5 articles on different topics within health, mortality and population issues with an adequate level of quantitative analysis (descriptive, inference or regression) and writes an evaluation, assessing the methods (to their knowledge) and comparing the results with alternative sources/methods.
  - Suggested scope: 1 page, length of assignment: 1 week.
- **Class activity (15'):** teacher discusses the reports jointly, students, highlighting mistakes, good considerations, etc.
  - It can also have a start exercise with a brief group discussion (by text chosen) where students share the insights gained from the exercise and produce a list of common conclusions.
- **Alternative setup**: this exercise could also be carried out as part of the reading of the texts that will be discussed in class.
  - Students need then only to write down their comments when they read texts, responding to questions such as: Who is the author and what discipline are they from? (an economist, a geographer, a historian...) Where does the paper stand in the continuum macro-micro, interdisciplinary and regionalism scope of the class? What type of contribution is this one and where did it appear? Are the authors part of a particular branch of scholarship or do they have particular views? (causality-driven, cultural, etc.) What are the main claims of the paper? What did you not understand at all? What surprised you? What is the subject of study and what type of system/model does he engage with? (individuals, families, regions, countries..) What methods do they use? What are the advantages and disadvantages of them?
  - Group discussion + plenum focused on data and methods (20'+10')

STUDENT FEEDBACK AND RESULTS

My experience with the alternative version was very successful as I used systematically with all the readings in the course (although with different intensity). Students found it difficult at first but they became much better at spotting the difficulties associated to the different types of sources, with making sense of contradicting evidence from different sources. Making them write headings: data, methods, pros, cons, limitations, etc. for all the readings helped them focus on the issues. The report formulation of this exercise can be a very good follow up after small exercises in class so they will have had the class experience and will feel acquainted with the spirit of the exercise and it will allow them to move forwards, articulating their own thought in writing.

THEME #2: GETTING STARTED

TLA #6: IDENTIFYING DATA AND METHODS FOR A TOPIC

INTENDED LEARNING OUTCOMES: Students will be able to find out appropriate literature for a topic, apply analytic skills to literature that uses quantitative techniques and discuss the consequences of different methodological choices in the type of findings of a paper.

DESCRIPTION: This activity is related to TLA # 5. It requires students to look for 3-5 articles on some topic, and analyse them through reading only the abstract (and the introduction) to analyse the different ways/methodologies in which the topic itself (migration in the original exercise) can be studied and discussed in class where are the trade-offs in the scope and methods of the research undertaken by the different authors.

FORMAT: Home assignment followed by class activity.

SEQUENCE:

- **Home assignment:** students have to find for themselves 3-5 articles that deal with migration (on the reasons to migrate, the migrants, the consequences of migration, etc.) using any type of data and methods (preferably of various types) and analyse their content by writing down in a table provided:
  - Aim (in one line)
  - Scope: global local; change over time or a very particular time
  - Sources/types of data: qualitative (letters, contemporaries, etc) , quantitative (census, longitudinal, surveys, etc)
  - Role of migration in the articles? Do they explain migration or does migration explain something?
  - Role of family strategies
- **Class activity**
  - Assigned readings: (Lucassen 2009, Kok 2010)
  - Group discussion in class (20'): students share the results of the pre-task via their filled in tables and need to come up with a series of conclusions that summarizes their overall findings on how the data and methods used relate to the type of research questions that authors pose. They need to write them either in Socrative, padlet or a poster. Conclusions can be phrased as "studies that use X, look at Y in Z way; Limitations of X, Y are W. Sources X, Y help us understand W", etc.
  - Circulation around posters and plenum led by the teacher (10').

STUDENT FEEDBACK AND RESULTS

A version of this activity was carried out and it had positive results for students, which grew more comfortable in moving between the different types of sources, limitations and methodological challenges to understand a topic. The table construction is now placed as a home assignment as students have a difficult time in identifying the structural aspects of the articles so it is preferred that they have enough time to do it on their own before they are confronted with sharing it in the class with the others. The formulation of "findings" in a poster is also a novelty, which is expected to make students focus better on general relationships between data limitations, scope of questions and results, moving beyond the specificities of the individual articles, which seemed to be the main problem they faced in the class exercises.

THEME #2: GETTING STARTED

TLA #7: DESIGNING MIXED METHODS RESEARCH PROPOSALS

INTENDED LEARNING OUTCOMES: Students will be able to identify the value and interest of using different approaches to their topic of interest and to design a research proposal that takes advantage of them.

DESCRIPTION: Students are asked to design a research proposal for a BA or MA thesis where they make use of both quantitative and qualitative material on topics related to lifecourse histories, history of the population, health and mortality.

FORMAT: Group/individual work in a home assignment, maybe as an end of course

SEQUENCE:

- **Students are asked to find out a topic within the area of population history covered by the course and design a research proposal** for a BA or MA thesis, identifying qualitative and quantitative sources (actual sources) and present it in the form of either a poster (ait can also work with them writing an extended abstract).
- **Example of the instructions given to students**:
  - How to do it?
    - Choose a relevant topic.
    - Do some readings on the topic (re-read those in the reading list and find some more) and refine a research question.
    - Find a source whose systematic analyses could be used to address the research question and plan how you should go about getting the data in, cleaning, classifying it, etc… and come up with some hypothesis (literature review) and expected results based on the literature.
    - Find also ways of analysing from a cultural perspective.
    - Put the research proposal together in the form of an academic poster (use provided template).
  - What it should have structurally: Introduction; Research question; Data and; Expected results: what can we gain from the analyses; and References.
  - Any type of source susceptible to be exploited systematically is valid.
- **Allow class time to work on projects**: to form groups and foster group work, steer them and provide supervision, especially at the beginning.
- **Class presentation of posters:** use a conference setup (with students walking around and, if wanted, a class prize) and a proper class discussion/feedback session.

STUDENT FEEDBACK AND RESULTS

The setup with a poster was successfully carried out, using groups created by topic. It worked very well to make students make the effort to find historical sources and think about how to think on a mixed-methods framework. The results were satisfactory but could have been much better if they had invested more than one week on it (as they did not start in time). Earlier start or an introduction of intermediate but supporting activities (other TLAs) could help and further group community building. In any case, this activity helped them with their work in the topics they researching for their exam and group work helped them to divide the workload and share experiences. Overall, it was a positive experience for them, particularly the class presentation of the poster. The less formal but still academic environment (as a poster is an authentic academic production), eating cake but standing around the posters and discussing academic topics was a positive end of term activity, which supported further student community building.

THEME #2: GETTING STARTED

TLA #8: CAUSALITY AND THE ECOLOGICAL PARADOX

INTENDED LEARNING OUTCOMES: Students will be able to identify two important misconceptions on statistics in the real world.

DESCRIPTION: Students are introduced to a piece of research that shows the association-causation confusion and the ecological paradox and try to understand why it is wrong.

FORMAT: Lecture and class exercise.

SEQUENCE:

- **Presentation of the teacher of the results of a deliberately misleading research** (Messerli 2012) (10'): based on the positive effects of dietary flavonoids in improving cognitive functions, correlates Nobel laureates per capita per country with chocolate per capita consumption and finds a positive association. This utterly ridiculous (and purposely so) paper published in the New England Journal of Public Health highlights two common statistical problems: the tendency of inferring causation from association and the pervasive inference that relationships found at the individual at the aggregate level are necessary in the same direction.

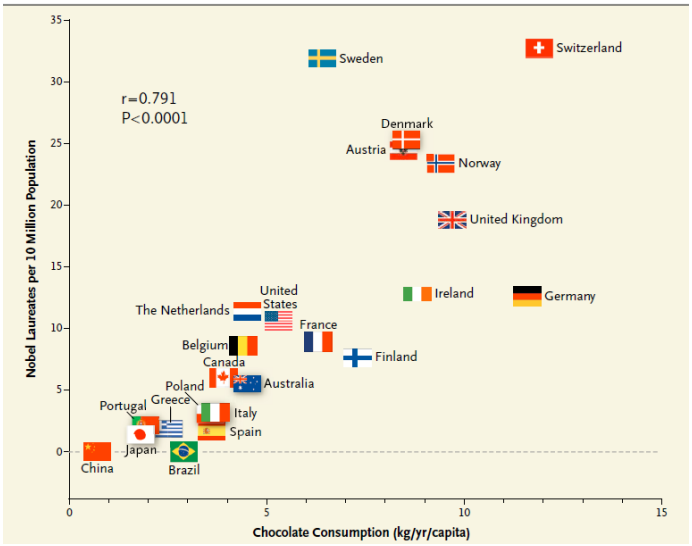


Figure 5. Main graph used in the Meserli paper correlating Chocolate consumption and Nobel laurates

- **Pair work** (5'): Ask students to discuss whether they believe these results and why not
- **Plenary** (10'): if possible, lead their discussion to finding the explanation and formulate the two issues: association-causation and the ecological paradox. Afterwards, explain that it was indeed a joke from the journal and the accolades that its publication brought.

STUDENT FEEDBACK AND RESULTS

This exercise was fully implemented in my class with very good results. The ridiculous nature of the conclusions and wording led to some laughs which broke the tension of the class and put the students in a good mood towards thinking about these types of issues. This worked very well as it associated the difficult topics with a fun memory and made it easy to access it: whenever we had to discuss something that involved mixing macro and micro levels or causation-association, I would only need to invoke the "chocolate example" to help them access the theory, which, in turn, also elicited some laughs and relaxed the environment. I also added an additional playful part that could also be used: in the break before starting with this exercise, I offered them some chocolates that I had brought without mentioning why. When I concluded my exposition of the paper, I formulated the question as "So, the reason I brought chocolate was to help you be Nobel laureates. Do you think it will work? Why not? Do you believe the results of the paper? And the assumptions? Should all countries increase their chocolate consumption?". This, in fact, added an additional layer of the policy implications to the question.

THEME #2: GETTING STARTED

TLA#9: LEARNING "STATISTIS-QUESE": HOW TO READ MULTIVARIATE ANALYSES WITHOUT KNOWING STATISTICS

INTENDED LEARNING OUTCOMES: Students will be able to interpret the general sense of multivariate analysis to be able to relate the results they provide to the that historiography that uses that type of methodologies.

DESCRIPTION: Students are taught some basic concepts of statistics on a particular topic that is being studied (fertility control) to teach them how to read the general sense of statistical models using multiple regression and to relate them to the research questions.

FORMAT: Lecture + 2 class activities in consecutive days

SEQUENCE:

- **Pre-assigned reading:** a text that uses some multivariate models in a historical context but with thorough explanations so students can understand the meaning even if they do not understand the tables. For fertility, a simple paper on the determinants of family size using census records (Kennedy, Pozzi et al. 2010).
- **Presentation of what is a model in lay terms** (20'): how models are created and how we read statistical tables. What students need to identify and how they work. The emphasis is on how to get a sense of "statis-quese" and how it works.
- **Class activity in groups** (30'):
    - The table from the assigned reading is given as a hand-out and students are asked to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: first checking that they understand basic aspects and then, asking them to enter interpretations that they need to write themselves: Questions such as:
        - Identify: a) what is the concept that they are modelling; b) which is the number that they will give them the measurement of the relationship; c) which is the number that will tell them about the significance.
        - Respond to several questions by checking the table and find the right numbers.
        - Write the interpretation of several numbers given for various variables.
    - Class "correction" of the exercise, using the results from Socrative, going over the questions that most students found more difficult.
- **Follow up refresher during the following day** (20'):
    - Recap with one example: small presentation where the way of reading it is spelled out with blanks. "When the number for X is positive, it means that increasing an increase in X is associated with a X increase in Y", etc.
    - Each of the students is called to answer to examples in the class and teacher prods for further interpretation.

STUDENT FEEDBACK AND RESULTS

This is a modified version of an exercise that I carried out. It worked but it produced excessive anxiety (even when they were placed in groups so as to buffer the feeling of helplessness and isolation). This version deals with it by: guiding them through how to interpret via Socrative exercise; using the reading they had previously read to increase their comfort over the topic and their confidence in knowing at least the "history" part. However, the second part was very successful, boosting their confidence, when they were able to formulate the results on their own in front of the class.

THEME #2: GETTING STARTED

TLA #10: MEASURING OUR OWN CHOICES AS HISTORIANS

INTENDED LEARNING OUTCOMES: Students will be able to create a simple database in Microsoft Office Excel, to define variables of interest and categories and to analyse its contents with Pivot tables.

DESCRIPTION: This activity introduces students to using Excel to examine the methodological, theoretical and content aspects of their own practice as Historians in a systematic way by examining the contents of a petitum, bibliography of essay, Master thesis, or other similar list of documents.

FORMAT: Lecture, home assignment and class computer session

SEQUENCE:

- **First class:**
  - Presentation by instructor (5'): example of using Excel to create a small database with the class reading list. By classifying the readings allocated according to methodology, geographical area, year of publication, period of study, degree of difficulty, etc., we can produce a small database that help us analyse its content.
  - Group discussion (10'): what type of aspects ("variables") would be interesting to measure if you were going to do the same for your BA thesis: write a list in the board/posters
  - Plenum (10'): choose the most relevant by popular voting.
- **Home assignment:** create the table and classify the readings according to choices agreed in class.
- **Second class:**
  - Presentation (20'): How to use Pivot tables: frequencies and percentages.
  - Guided individual class exercise on the databases created by students themselves (30'): Students need to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: first checking that they understand basic aspects on using Pivot tables and then, asking them to enter interpretations on the numbers that they need to write themselves:
    - Some initial exercises on creating new variables, recoding and creating ranges
    - Some exercises in calculating the amount of readings by the year when they were published, or the period
    - Some questions on the implications for the thesis that the student can see in relation for their own thesis
  - Plenary and questions (10').
- **Additional support:** Videos on the different steps involved in analysing Pivot tables can be made available for students so they can refer back to them when they are at home and refresh their minds

STUDENT FEEDBACK AND RESULTS

This activity amalgamates my experience of presenting the results of the analysis of my class reading list with an actual activity on pivot tables (TLA#19). The reflection on how such a simple exercise on creating a database on a reading list can be used to learn about our choices and interests as historians garnered strong interest among students. And I think that could be easily coupled with teaching pivot tables, thus extending its use to any type of course and the introduction of quantitative skills in a very non-threatening way. Familiarity with the content, their own reasons on why they chose the readings and contexts coupled with the actual "analyses" can offer a very interest learning experience on the usefulness and relevance of these types of efforts.

THEME #2: GETTING STARTED

TLA #11: INTRODUCING SYSTEMATIC ANALYSIS OF QUALITATIVE SOURCES

INTENDED LEARNING OUTCOMES: Students will be able to create a simple database in Microsoft Office Excel, to define variables of interest and categories and to analyse its contents with Pivot tables.

DESCRIPTION: This activity introduces students examine qualitative sources in a complementary quantitative way by creating a small database in Microsoft Office Excel to contain observations on newspaper articles, books or other sources and defining their own explanatory categories. This is ideal for courses which may involve a large piece of research such as Bachelor or Master thesis.

FORMAT: Class computer session and home assignment.

SEQUENCE: (idea taken from practice of Anne Løkke, personal elaboration here)

- Class:

- Presentation by teacher (20'): how to create small databases in Excel to contain information on qualitative sources and how to use Pivot tables to visualize them. Example of the reading list for the course.
- Individual reflection (5')+ Brief group discussion (10'): which is the best way to classify the sources that each student works.
- Guided class Excel exercise: using a database on the class reading list created by the teacher (see TLA #10) students need to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: first checking that they understand basic aspects on using Pivot tables and then, asking them to enter interpretations on the numbers that they need to write themselves:
  - How many publications are from each period?
  - Were authors female or male?
  - Do they mention gender?
  - What can we say about the course from this material?
- Plenary with questions (10'): What can we say about the course from this material?

- Home assignment: students develop their own databases for their own sources, to be used for their essays/thesis. Follow up should be carried out in supervision sessions, asking students to report on their activity.

- Additional support: Videos on the different steps involved in analysing Pivot tables can be made available for students so they can refer back to them when they are at home and refresh their minds

STUDENT FEEDBACK AND RESULTS

This activity amalgamates three experiences: one of them analysing literature (TLA #10), another on pivot tables (TLA #19) and the practice of Pr. Anne Løkke of teaching her students to use Excel for qualitative sources when they work with their Bachelor and Master thesis. She has had an enormous success and students are reported to show great interest in the power of this exercise to boost their research. Here, the setup explicitly combines this effort with pivot tables and the examination of literature, making the exercise a very rounded one with potential long-term consequences in studying practices and learning. This setup includes guiding the activity with a Socrative self-paced quiz, which I consider could be very helpful to reduce anxiety and guide students based in my experience with TLA#10. Although designed in its present version for a Methods class, its lack of limitations on the actual content (all courses and essays have reading list and all types of qualitative sources are subject to some sort of classification of sorts) makes it repeatable in any kind of course across the degree of History and thus make it a potential for change in students views on interacting with quantification.

THEME #3: DESCRIBING TRENDS

TLA #12: COLLECTING PUBLISHED DATA, REPRESENTING AND UNDERSTANDING BASIC STATISTICS

INTENDED LEARNING OUTCOMES: Students will be able to compute and represent basic rates and percentages and graph them appropriately in Microsoft Office Excel.

DESCRIPTION: This activity introduces students computing basic statistics derived from data obtained from published statistics and graph them accurately using Microsoft Office Excel.

FORMAT: (Optional home task), lecture and class computer session.

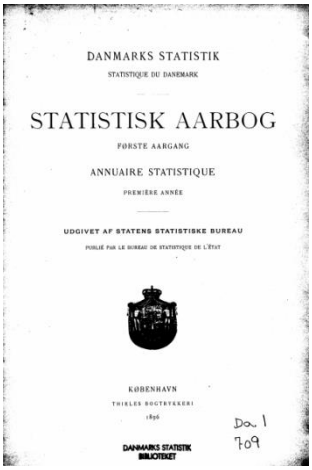

DANMARKS STATISTIK
STATISTIQUE DU DANEMARK
STATISTISK AARBOG
FØRSTE AARGANG
ANNUAIRE STATISTIQUE
PREMIÈRE ANNÉE
UDGIVET AF STATENS STATISTISKE BUREAU
KØBENHAVN
DANMARKS STATISTIK BIBLIOTEKET

Figure 6. Scan of the Statistisk Aarbog where students can get data (http://www.dst.dk/da/Statistik/Publikationer/VisPub.aspx?cid=12370)

SEQUENCE

- **Home task (optional)**: students need to type crude number of births, deaths and population for a series of cities or regions and the national aggregates from published statistics in the Statistiks Årbog.
- **Class:**
  - Presentation (30'): discussion on population trends (and vital statistics) followed by an explanation on the importance of understand the different types of numbers that can be found and computed (frequencies, rates, ratios and percentages) and their problems of interpretation for us.
  - Class individual/pair exercise (30'): students need to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: first checking that they understand basic aspects on the computations and Excel use and later, asking them to enter interpretations on the numbers that they need to write themselves. Issues covered could be:
    - Compute birth rates and death rates (from a file supplied by the teacher or the results of their own typing from the home assignment). Are these numbers big or small?
    - Plot them in individual graphs for Denmark. What does that tell us about the evolution of the country.
    - Plot in another graph data on infant mortality and on total fertility rates (provided by the teacher). What do these two types of representations mean? What are the problems.
    - Plot now data on infant mortality for the whole country (provided also by the teacher). Can you think of some reasons for this variation?
- **Additional support:** Videos on how to perform these analyses can prove useful for student support.

STUDENT FEEDBACK AND RESULTS

This activity is a new development and it is inspired by the difficulties my students found in actually identifying data and interpreting it for one of the assignments: some could not even produce the right numbers while most of them had trouble reading them. It is informed by the exercises in Excel that I carried out and the setup for small bits of computation along questions of interpretation is targeted towards making sure that a) all students are at the same pace (roughly); b) interpretation of magnitude and trends is explicitly addressed. In any case, questions checks that students develop both the "quantitative" competence and the "historical competence" in dealing with that type of data. This exercise will probably be the introductory exercise to the classes on aggregated analyses on the Methods class in the fall.

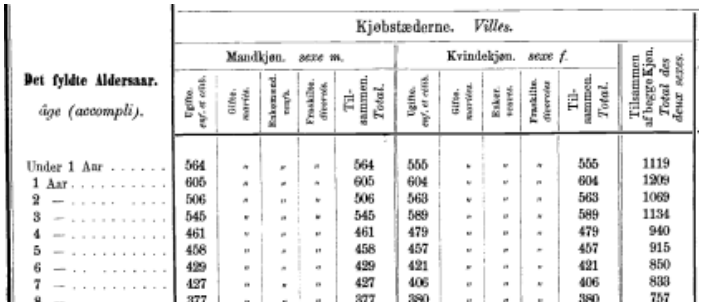
THEME #3: DESCRIBING TRENDS

TLA #13: COMPARING POPULATIONS

INTENDED LEARNING OUTCOMES: Students will be able compute several measures of population composition and evaluate its reliability using Microsoft Office Excel.

DESCRIPTION: This activity introduces students to collecting data, representing population pyramids using Excel and comparing them to gather insights to population composition and source criticism. Extendable to changes over time if relevant for the topic.

FORMAT: Lecture and class computer session



Det fyldte Aldersaar. *Âge (accompli).*	Kjøbstæderne. *Villes.* Mandkjøn. *sexe m.* Ugifte. *cél.*	Gifte. *mariés.*	Enkemænd. *vfs.*	Fraskilte. *divorcés.*	Tilsammen. *Total.*	Kvindekjøn. *sexe f.* Ugifte. *cél.*	Gifte. *mariées.*	Enker. *vuves.*	Fraskilte. *divorcées*	Tilsammen. *Total.*	Tilsammen af begge Kjøn. *Total des deux sexes.*
Under 1 Aar	564	"	"	"	564	555	"	"	"	555	1119
1 Aar	605	"	"	"	605	604	"	"	"	604	1209
2 —	506	"	"	"	506	563	"	"	"	563	1069
3 —	545	"	"	"	545	589	"	"	"	589	1134
4 —	461	"	"	"	461	479	"	"	"	479	940
5 —	458	"	"	"	458	457	"	"	"	457	915
6 —	429	"	"	"	429	421	"	"	"	421	850
7 —	427	"	"	"	427	406	"	"	"	406	833
8 —	377	"	"	"	377	380	"	"	"	380	757

Figure 7. Example of the scan of the census that students will type

SEQUENCE:

- **Pair work followed by a small plenum** (15'): What are the advantages and disadvantages of using census or census-like information? Who is counted and who is not?
- **Presentation** (15'): how to work with population counts and population pyramids (emphasis on how to present them in standardized terms) and how to interpret them
- **Class computer exercise (individual/pairs)** (25'): students need to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: first checking that they understand basic aspects on the computations and Excel use and later, asking them to enter interpretations on the numbers that they need to write themselves:
  - With a given file that has the population of Copenhagen in 1880, compute a population pyramid by sex. What does it tell us about the people living in the city? Who was not there?
  - With a given file that has the population of Copenhagen in 1880 by marital status, compute a population pyramid by sex about life in the city. What does it tell us about the people who lived in the city?
  - Type data on population by age and marital status from the Census of 1880 for a city and plot its pyramid (assigned to different groups, Odense, Aarhus, Borholm, Randers, Viborg (from http://www.dst.dk/pukora/epub/upload/19607/folkem1880.pdf):
    - What do we need to do so we can compare the population of both places?
    - How is the assigned city different from Copenhagen? Is there a similar distribution of the married?
  - Upload Excel spreadsheet to Absalon with the data so it can be re-distributed to the whole class
- **Class discussion (5'):** is there someone missing? Address children under-registration
- **Additional support:** Videos on how to perform these analyses can prove useful for student support.

STUDENT FEEDBACK AND RESULTS

This activity is a new development for the Master course and it is inspired by the difficulties that students found in creating population pyramids even when there were slides and videos leading them through the process. It also stems from the acknowledgement of the difficulty of comparison and keeping in mind the need of establishing meaningful comparison. Additionally, it includes issues of source criticism, comparability and reliability of a more interpretative nature. Moreover, it also attempts to bring to the class the typing of data and its problems and to generate a community feeling: all producing pieces of data that will be shared.

THEME #3: DESCRIBING TRENDS

TLA #14: COMPUTING MEASSURES AND INTERPRETING MACRO DATA

INTENDED LEARNING OUTCOMES: Students will be able to compute percentages and understand their significance in relation to a research question using Excel.

DESCRIPTION: This activity introduces students to computing percentages and reading data from tables and applying it to research questions with aggregated data using data produced by Harris in his book "The Origins of the British Welfare State: Social Welfare in England and Wales" (2004).

FORMAT: Lecture and 2 class computer sessions.

SEQUENCE: taken from Freeman 2000 and available in:
http://www2.warwick.ac.uk/fac/cross_fac/heahistory/elibrary/internal/rg_freeman_quanitativeskills_20100131
- **Lecture:** it introduces debates on the inter-war welfare (with a focus on Britain).
- **Two one-hour lab sessions:**
  - A document introducing them to Excel is used: (http://www2.warwick.ac.uk/fac/cross_fac/heahistory/resources/rg_freeman_quantitativeskills_20100131_02.pdf
  - Students complete a worksheet, which asks a range of questions, of increasing difficulty:
    - Questions: (http://www2.warwick.ac.uk/fac/cross_fac/heahistory/resources/rg_freeman_quantitativeskills_20100131_03.pdf
    - Dataset: http://www2.warwick.ac.uk/fac/cross_fac/heahistory/resources/rg_freeman_quantitativeskills_20100131_04.xls
- **In an additional session** (or after they have submitted their individual questions), there can be a follow up discussion where both challenges, successes but also issues of content and difficulty can be addressed.

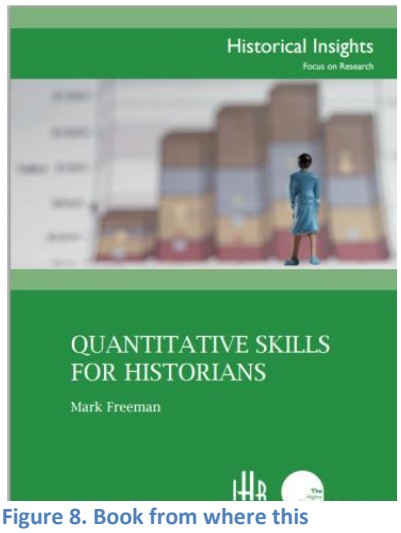


Figure 8. Book from where this example has been taken

STUDENT FEEDBACK AND RESULTS

This activity was developed and tested by Freeman (2010) who acknowledges the importance of small and self-contained exercises that test knowledge of the procedures with increasing difficulty until more substantive questions on inference and conclusions, where students are asked to write and reflect on the context become the substantial part of the exercise. This has been the inspiration of many of my own TLAs of this type although I have taken further his idea of checking information and elaboration by including a self-paced Socrative quiz as a very concrete and easy way of assessing their progress and help them with self-regulation.

THEME #3: DESCRIBING TRENDS

TLA #15: AVOIDING THE MIS-USE OF GRAPHS AND TABLES

INTENDED LEARNING OUTCOMES: Students will be able to distinguish good from bad graphical evidence and use it appropriately as part of their essays or reports in response to a given research question

DESCRIPTION: This activity teaches students the "do's" and "don'ts" of using graphs and statistics as part of report or essays by providing some examples that need to be corrected and letting them come up with the rules for displaying data on population, health and mortality issues.

FORMAT: Class computer session

SEQUENCE: inspired on Freeman (2000)

- **Presentation (20'):** the features of graphs in Excel and the dangers of mis-representing health and mortality outcomes.
- **Pair or individual work (35'):** Students are given a spreadsheet containing graphs and data related with issues of health and mortality in public health previously discussed within the class. They show different indicators and representations that may or may not be right. Students need to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: asking them whether graphs are ok, helping them to produce the right representation and asking them to enter interpretations on the numbers that they need to write themselves. Some tasks involved:
  - If they are problems with the graphs, they should correct them: fit of the type of graph for magnitudes studied, frequencies or percentages, labels, titles, units used, colours, need of the graph itself, etc.
  - They are requested to reflect (and note) on what are the "do's" and "don'ts" of producing graphs for academic purposes
- **Group work (10'):** students are required to create two posters collecting the "do's" and "don'ts" from their work
- **Circulation** to observe all the others works and teacher revises and completes the lists if necessary (10').
  - Upload of a spreadsheet with the "right" answer for the exercises and photographs with the "do's" and "don'ts" of students posteers in Absalon at a later time.
  - Additionally: Some group/person may be asked to volunteer to write a summary of the points?

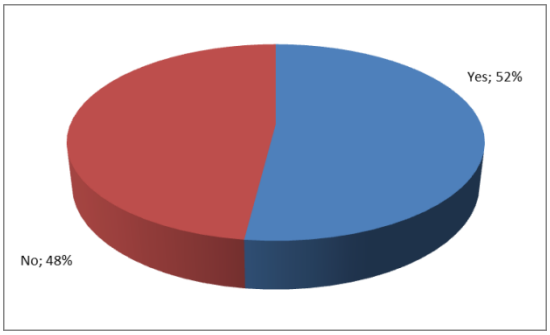


Figure 9. Example of a graph students need to evaluate and correct

STUDENT FEEDBACK AND RESULTS

This activity is a new development inspired by my own experience with the graphs produced by my students in their reports and graphs and the concept of "do's" and "don'ts" provided by Freeman (2000) which uses examples from the Harris example discussed earlier (TLA#14). However, rather than lecturing them on what to do (or not), the setup preferred here has the student at the centre of the discovery of he "do's" and "don'ts" because: it fosters learning by doing; it increases their confidence in work with Excel and manipulating data; and it promotes discussion and development of critical skills in the observation an manipulation of data. In fact, just looking at each other's graphs proved to be very relevant for student learning as they became more able to evaluate their own work by looking at what others had done.

THEME #4: FOCUSING ON INDIVIDUALS

TLA #16: CLASSIFYING INDIVIDUALS TO ADDRESS RESEARCH QUESTIONS

INTENDED LEARNING OUTCOMES: Students will be able to relate theoretical concepts to actual research practice, discuss the difficulties of operationalizing concepts and reflect critically on the consequences of research decisions.

DESCRIPTION: This activity presents students with a real research situation. In order to study socio-economic differences in mortality, it is necessary to decide how to measure socio-economic status depending on both theoretical aspects of what is socio-economic status and the availability of information for a given context, Copenhagen 1880.

FORMAT: Assigned reading and class activity.

SEQUENCE:

- **Assigned readings on socio-economic status classification and socio-economic differences and mortality:** Van Leewen et al. (2002) and Bengtsson & Van Poppel (2011).
- **Class discussion** (talk to group and then plenum) (30'): the meaning on socio-economic status and the readings prompted by two socrative questions:
  - What does socio-economic status reflect? Class, prestige, status, economic power, social power, relationship in the labour market and productive units, social honour, none of the previous, all of the previous.
  - What indicator should we use to operationalize socio-economic status? Occupation, education, property, income

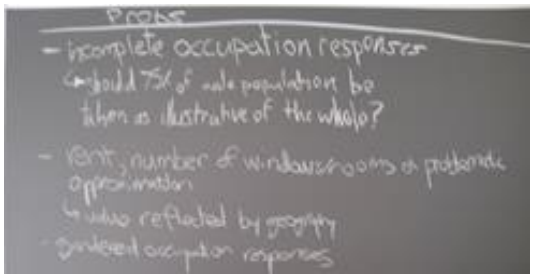


Figure 10. Example of the responses in the board

- **Class exercise** (40'): in the context of the teacher's project on socio-economic differences in mortality in 1880 Copenhagen, they are given a hand-out with information on the availability of data (provide slide with information on data available and not available)
  - In groups, try to respond to these questions and write your comments on the board/posters (under two headings) (30'):
    - How do I go about studying socio-economic differences (considerations, steps, etc)
    - What problems will I face in my analyses?
  - Plenary and discussion around the posters/boards (10')

STUDENT FEEDBACK AND RESULTS

This activity was a complete success and it led to a very lively participation and discussion, where students pursued different lines of reasoning and found different groups that would be ill represented by any of the measures. It contributed to drive students to a fuller understating of how to deal with data, its limitations and the research decisions that need to be taken. Integrating current and on-going research, which I did by discussing my research as frequently as it was relevant for the material, proved to be a practice that lent a lot of authenticity to the inclusion of quantitative exercises as the uncertainty of how to best analyse a given factor and the problems of interpretation were forefront of the discussion. In fact, explicitly posing questions for which I still had not found answers placed the emphasis on the process, the rigour and underlined the need of a historical mind like theirs, thus, hopefully bringing them to feel included among a community fully able to take the challenge.

THEME #4: FOCUSING ON INDIVIDUAL S

TLA #17: FINDING QUANTITATIVE SOURCES ON INDIVIDUALS TO ANSWER NEW RESEARCH QUESTIONS

INTENDED LEARNING OUTCOMES: Students will be able to relate theoretical concepts to actual research practices and find appropriate sources to their research questions among archival or bibliographic material.

DESCRIPTION: This activity trains students in finding new sources to study individuals (through hospital, military, administrative records, etc.) that are susceptible of being analysed quantitatively (because they are quantitative in nature or because they can be studied as such) in response to a research question on the lives of particular sections of the population.

FORMAT: Class exercise and home assignment.

SEQUENCE

- **First class:**
  - Presentation (15'): on lifecourse research and the use of individual sources on people's lifecourses as new historiographical development focusing on the major types of sources used (census collected by IPUMs, individual level datasets on lifecourses, institutional population, etc).
  - Group work (30'): decide a topic within lifecourse history for which there could be sources in the archives containing individual information and make a list of potential places where you check for that type of information. It does not necessary need to be a novel source but the source needs to be able to be analysed to address a particular question.
- **Home task:** Divide the search for sources and decide on one and prepare either in a group-report or for a short presentation on the following class (5' maximum for each group).
  - A description of the rationale of the research and the selection of the source
  - A picture for show and tell
  - Description of the characteristics of the data source: who is covered, why, length of the source) and the process of data collection that you would undertake.
- **Presentation in class:** plenary on the student presentations or on the student reports.

STUDENT FEEDBACK AND RESULTS

This activity was designed for my course but not carried out because I had no Danish students that could go to the archives or find out about Danish sources. However, the spirit was carried out in the final assignment (TLA #7) as they had to look for sources. Due to the high quality of information and access retrieval through online catalogues of Danish archives, it seems a suitable exercise (not too time-consuming, particularly given the option of group work) that plays on students' familiarity with archives and archival work from previous "regular" history courses but adds an additional layer. Probably, an informal class report in the subsequent class would be the best option to foster the dimension of community within the class: all of the students becoming 21st century historians by being able to look at sources and their analysis in a very different way.

THEME #4: FOCUSING ON INDIVIDUAL S

TLA #18: FROM SOURCES TO THE DATABASE: HOW TO ENTRY INDIVIDUAL LEVEL DATA

INTENDED LEARNING OUTCOMES: Students will be able to design an informed data entry protocol for a source that collects information on individuals.

DESCRIPTION: This activity trains students in designing an informed process of data entry of historical sources by asking them to design a data entry protocol for a given source.

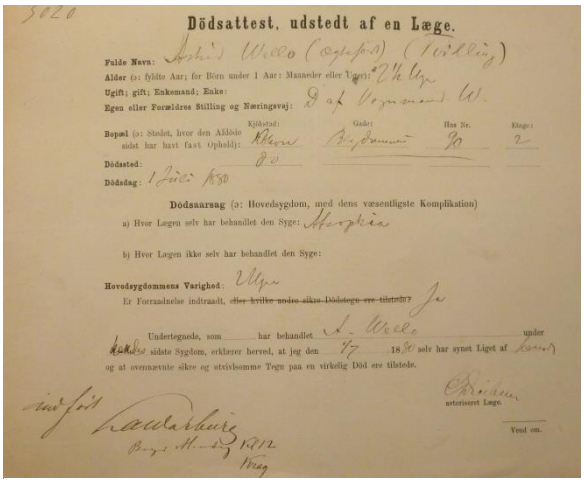

Dödsattest, udstedt af en Læge.

Figure 11. Example of source used for this exercise (death certificates from Copenhagen)

FORMAT: Class activity in groups.

SEQUENCE:

- **Presentation** (20'): the process from a research question, through finding the right sources, deciding what to entry, typing and analysing it in a general way using an example of the decisions taken on the life histories of foundlings from the Foundling Hospital of Madrid.
- **Class exercise (in groups)** (30'):
  - Students are distributed a handout with a research question, a description of the source and a photocopy of a source as well as an electronic file where they can see more examples of the source itself. (Alternative, 1-2 different sources are used to have at least 2 groups doing each source to provide different examples).
  - Students need to come up with decisions to several aspects listed in the handout which guides them through the process on aspects such as:
    - What to type?: sample or total? What kind of sample, random, one month a year, first 10 days of each month, etc.?
    - How to type: What fields will they type and will they not type? Will they add other information? How will they type names and surnames, one field, two? Will the use numeric filters for numeric variables? How will they deal when there is no information in a given field? And when it does not appear? Will they correct typos, never, sometimes, always? Will they use scrolling-menus?
  - Group presentations and teacher comments (20')
- **Additional layer to highlight preconceptions:** before presenting anything, ask students through Socrative the number of research decisions that they think predate any full analysis. After the exercise is done, discuss preconceptions and reality of work with quantitative sources.

STUDENT FEEDBACK AND RESULTS

A version of this activity was carried out in my course and it helped students to realize the difficulties of dealing with large number of records, the variability in historical sources and the dozens of research decisions that predated any proper analysis that need to be fully identified as such. The implementation could have been improved by a clearer set of guidelines for students' role in the exercise, which is presented in this version as a detailed set of questions that leads them through the main decisions (as a sort of checklist) where they need to stop and reflect on the implications of the decisions for research.

THEME #4: FOCUSING ON INDIVIDUALS

TLA #19: ANALYSING INDIVIDUAL LEVEL DATA WITH EXCEL

INTENDED LEARNING OUTCOMES: Students will be able to analyse and interpret an individual level database using Excel Pivot tables.

DESCRIPTION: This activity introduces students to the analysis of the population of Copenhagen in 1880 as it appears in the digitized census records through several procedures using Microsoft Office Excel Pivot tables in response to a set of exercises which aim to answer a research question on co-residence patterns of the elderly in the city.

FORMAT: Class activity: ssigned reading (+discussion), lecture and class computer session.

SEQUENCE:

- **Assigned reading**: Ruggles (2003). Class discussion on the text or other assigned readings.
- **Presentation** (30')**:** how to analyse individual level data from the perspectives of individuals, following Ruggles, and how to operationalize it (computing frequencies and percentages) using Pivot tables.
- **Class exercise** (30'): Students are given an Excel spreadsheet that contains the census of Copenhagen for 1880 conveniently cleaned up and are tasked with its analysis in order to respond to these questions: Is the co-residence among the elderly in Copenhagen 1880 like the one found by Ruggles 2003 for the US? How is it different?
    - Students carry out a guided class exercise in order to respond to the question which leads them through the construction of different variables and computing different percentages that will allow them to answer the question.
    - Students need to respond to several questions in a student-paced Socrative quiz (which includes immediate feedback) guiding the activity: asking them whether graphs are ok, helping them to produce the right representation and asking them to enter interpretations on the numbers that they need to write
- **Final wrap-up** (15'): with questions, plenary, student groups, asking for a full answer to the question on whether the evidence supports Ruggles claims.
- **Additional support:** Videos on the different steps involved in analysing Pivot tables can be made available for students so they can refer back to them when they are at home and refresh their minds. Also, slides on the completed exercises for reference.

STUDENT FEEDBACK AND RESULTS

This activity was successful in getting students to appreciate a) the availability and wealth of Danish sources; b) the relative ease on getting started on some quantitative analyses on substantive issues of the discipline. Some of the students were in awe when told that "the entire population of Copenhagen, a quarter million people, resided now in their laptops", producing a shift in their appreciation. However, while doing the exercise, some students were quickly lost in trying to follow through the motions of "clicking the right things" but oblivious to the larger picture. The present version adds the Socrative guided system to aid both their "quantitative" and "historical competences", avoiding that they "go through the motions" which will help with self-regulation as well as with the adjustment of later exercises, based on the class level.

THEME #4: FOCUSING ON INDIVIDUALS

TLA #20: USING INDIVIDUAL LEVEL DATA ANALYSIS WITH EXCEL TO ADDRES A RESEARCH QUESTION

INTENDED LEARNING OUTCOMES: Students will be able analyse the content of an individual level database and interpret it using Microsoft Office Excel Pivot tables in pursuit of addressing a particular research question.

DESCRIPTION: This activity can be used as a follow up to TLA #20 and it builds on the training introduced in it in a home assignment that reproduces the structure of the previous TLA but is intended to be done at home by the student with the same database/version of it (Copenhagen census in 1880) in order to address one of a given set of research questions and a few aids.

FORMAT: Home assignment (+class discussion).

SEQUENCE:

- **Students can chose between a set of given research questions** that can be investigated with the data for Copenhagen 1880 and answer it. Group work is allowed.
- **Potential question**
  - How were the living arrangements of the handicapped in the city?
  - Did migrants have different characteristics than natives?
  - Were there socio-economic differences in fertility?
  - Was there infant death clustering among particular groups of families (lower class, migrants, etc.)?

Figure 1: Average number of infant deaths, living children, and total children for native and migrant women in Copenhagen in 1880.

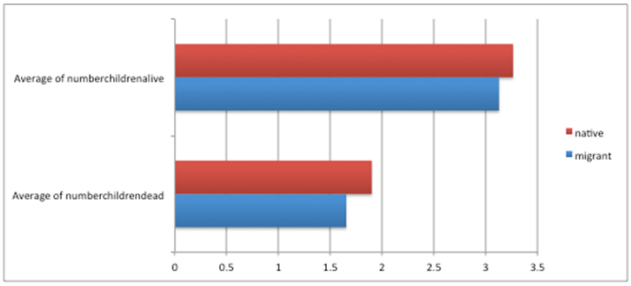


Figure 12. Graph produced by a student as a response to differences betwen natives and migrants

- **Tasks:** Students are required to do some background readings that they need to find for themselves as the topics were within the course scope and write the results in the format of a 2-pages extended abstract (or a report or a poster) with only the necessary graph/tables.
  - Some indications on potentials steps to follow are given to direct their analyses.
- **Feedback:** Comments either orally for the individual papers or for the class assignments as a whole but, alternatively, or additionally, with a class discussion on their findings.

STUDENT FEEDBACK/ RESULTS

This activity was successful and extended abstracts were handed in by 7 students (3 of them worked together and the others as a group) out of 10. The less disposed (and more fearful) students banded together, so it is unclear to me the extent of their involvement but, overall, the four abstracts showed a good understanding on how to translate a research question into an analysis. The methods were not always as good as they could have been, which can be solved with a set of rules on the analyses (not guided though, as this is a "freer" exercise). In any case, it was very encouraging to see that after only one class (TLA#19) they could already have a sense of how to work with individual level data in a basic but meaningful way.

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