

Dr. Gianluca MANZO

COURSE DESCRIPTION

The course introduces the main lines of an approach to the social data analysis that integrates descriptive techniques and suitable methods to formalize and to implement theoretical explanation

REQUIRED SKILLS

Every analysis instrument will be introduced through some applied research examples and we will show their modalities of application through a data elaboration environment (like Excel, SPSS or LEM) or a programming environment (like Jbuilder). All necessary technical elements in order to use the instruments will be supplied to the student during the lessons, and not presupposed.

PURPOSES OF THE COURSE

The course aims to be, at the same time, a source of theoretical and technical skills and a "laboratory" of analysis. The course aims not only to transmit some notions and some instruments, but also to stimulate the curiosity towards a research strategy built between induction and deduction.

COURSE PROGRAMM

1. The place of the statistical analysis in the research cycle
 - 1.1. Describing and Explaining
 - 1.2. An historical outlook on social statistics
2. Description Inputs
 - 2.1. Exhaustive analysis and sample survey; Types of sampling
 - 2.2. Institutional producers of social data; Secondary analysis
3. Descriptive statistics for categorical data
 - 3.1. Univariate distribution analysis
 - 3.2. Contingency tables analysis
 - 3.3. Introduction to log-linear and log-multiplicative analysis
4. Explanation Inputs
 - 4.1. The object of the hypothetical reasoning: the concept of the generative mechanism
 - 4.2. The formalization of the hypothetical reasoning: mathematical and computer science languages
5. Instruments of implementation of mechanistic explanation
 - 5.1. The Simulation methods
 - 5.2. Building artificial societies: the agent-based modelling
6. Inductive study of simulated data by statistical analysis

REQUIRED READINGS

(The references in parentheses send back to the sections of the program)

[1.1.] e [4] Manzo G. 2005. – « Variables, mécanismes et simulations. Une combinaison des trois méthodes est-elle possible ? Une analyse critique de la littérature », *Revue Française de sociologie*, 46, 1 (an English version will be ready to beginning of November 2006).

- [1.2.] Raftery A. E. 2001. - « Statistics in sociology, 1950-2000: A selective review », *Sociological Methodology*, 31.
- [2.1.] Chiari G., Corbetta P. 1973. - “Il problema del campionamento nella ricerca sociologica. Parte I”, *Rassegna italiana di sociologia*, 14, 3; Corposanto C. 2000. - *Tecniche del sondaggio di opinione. Come raccogliere i dati per capire i fenomeni sociali*, Lint, Trieste.
- [2.2.] Corbetta P. 1999. - *Metodologia e tecniche della ricerca sociale*, Il Mulino, Bologna (ch. 7); Corposanto C. 2002. - *Il ciclo statistico della ricerca sociale*, Franco Angeli, Milano (ch. 1)
- [3.1.] Corbetta P. 1999. - *Metodologia e tecniche della ricerca sociale*, Il Mulino, Bologna (ch. 12, pp. 495-515, pp. 525-529) ; Corposanto C. 2002. - *Il ciclo statistico della ricerca sociale*, Franco Angeli, Milano (ch. 2)
- [3.2.] Corbetta P. 1999. - *Metodologia e tecniche della ricerca sociale*, Il Mulino, Bologna (ch. 13, pp. 557-576, pp. 593-598)
- [3.3.] Di Franco G. 2003. - *L'analisi multivariata nelle scienze sociali. Modelli log-lineari e variabili categoriali*, Roma, Carocci (ch. 1-3) ; Bohrnstedt G. W., Knoke D. 1998. - *Statistica per le scienze sociali*, Bologna, Il Mulino (ch. 10); Powers D. A., Xie Y. 2000. - *Statistical methods for categorical data analysis*, San Diego: Academic press (ch. 4, except section 4.5.)
- [5.] Manzo G. 2004 - « Appunti sulla simulazione al computer. Un metodo attraente per la ricerca sociologica », in Corposanto C. (ed.), *Metodologie non-intrusive nelle scienze sociali*, Franco Angeli, Milano, chap. 9. ; Moretti S. 2004. - *Modelli e conoscenza scientifica. Problemi di formalizzazione nella ricerca sociologica*, Milano, Guerini scientifica (ch. 3) ; Gilbert N., Troitzsch K. 1999. - *Simulation for the social scientist*, Philadelphia, Open University press (ch. 1, 2 e 8).

FINAL EXAMINATION

The examination will consist in an oral talk articulated in the following way:

- 1) A data analysis exercise in Excel, SPSS or LEM ;
- 2) A theoretical, methodological or technical question ;
- 3) A synthesis exercise based upon following readings :
 - (a) Corposanto C. 2001. - *La classificazione in sociologia. Reti neurali, discriminant e cluster analysis*, Milan, FrancoAngeli (choosing ont chapter);
 - (b) Corposanto C., Manzo G. 2003. - « Disuguaglianze educative e loro trasformazioni nel tempo: problemi tecnici e metodologici di un'analisi compiuta mediante reti neurali artificiali », *Sociologia e Ricerca sociale*, 70.