GraSPP THE UNIVERSITY OF TOKYO

東京大学 THE UNIVERSITY OF TOKYO

GSDM Global Leader Program for Social Design and Management

Introduction to Social Science

Course Handbook

Tokyo, October 25th, November 1st, 8th, 29th 2014

Instructors:

Atsuo KISHIMOTO (Professor)

Hideaki SHIROYAMA (Professor)

Roberto ORSI

Chiaki SATO

Table of Contents

Overview

The course provides an overview of epistemological and methodological concepts, issues and techniques concerning the production of scientifically relevant knowledge in the domain of social sciences. It is designed and intended for an audience of post-graduate or doctoral students coming from both quantitative and qualitative backgrounds, therefore including students of natural and applied sciences. It proceeds from the illustration of key basic concepts in defining research activities and production of knowledge, with particular reference to their historical evolution in philosophical debates, to the clarification of methodological choices for a number of social science disciplines, to the exploration of themes which are contingent to methodological questions, such as methodological pluralism and interdisciplinarity, ethics of scientific research and effective communication.

The course will be taught by Professor Atsuo Kishimoto, Dr. Roberto Orsi and Dr. Chiaki Sato, with the supervision of Professor Hideaki Shiroyama, within the context of the Global Leadership Program of the Graduate School of Public Policy, Tokyo University.

If you have any inquiry, please email Dr. Orsi at the following address: r.orsi@pari.u-tokyo.ac.jp

Learning Outcomes

At the end of the course, the student should have familiarised with the key concepts informing epistemological and methodological debates in social science, such as hypothesis, theory, falsification, verification, covering law, causality, with particular consideration for positivistic paradigms and anti- or post-positivistic reactions.

The student should be aware of the specific difficulties of social scientific disciplines in studying human societies arising from the problematic separation between the studied object and the studying subject, and the link between social science and the political dimension.

He should familiarise with problems of social research design, starting from the specificities characterizing the various stages of social science research.

The student should become aware of the functional classification of social science methods in qualitative and quantitative, familiarising with a number of techniques in both domains, while grasping that contemporary social research increasingly requires the application of different methods and interdisciplinary approaches, which also lead to the necessity of teamwork coordination.

The course also aims at providing a large variety of examples where the concepts and principles described above find their application and didactical clarification. Those examples will focus in particular on the study of technology and its social impact, on the nuclear industry and on aspects of food safety.

Finally, the student should become aware of the moral implications, limits and rules informing social science research, as well as of the role and importance of effective communication in the social sciences.

Structure of the Course

The course is articulated in 15 teaching units of 100 minutes each. Each teaching unit contains approximately 50 minutes of frontal lecture, 10 minutes of break and 40 minutes of class seminar.

Seminars are in-class discussions of topics previously covered in the lectures, and activities are designed in order to enhance both the absorption and the re-elaboration of contents by the students.

A list of readings is attached to each teaching unit. Students are required to cover the readings before coming to the lecture and the class seminar, as they participation to class discussion is evaluated by the teacher and constitutes part of the assessment for this course. The indication of whole volumes as relevant readings does not imply that the entire volume has to be covered in full, but only those parts which appear to be more relevant with relation to the topic of the lecture.

The course will take place on the following days:

Saturday	25th	October 2014
Saturday	1st	November 2014
Saturday	8th	November 2014
Saturday	29th	November 2014

The room is indicated below together with the description of each lecture and the readings.

Assessment

Students will be assessed according to the quality of their performance with reference to

Attendance and Class Contribution	(10%)
Group Presentation	(20%)
Final Written Report	(70%)

The Group Presentation is a short, 8 minutes presentation on a relevant topic which will take place after Lecture 16 (Wrap-Up Lecture). Students will be allocated to groups after the first half of the course and will be given time to prepare. The presentation should include a maximum number of four powerpoint slides. In order to promote an adequate teamwork spirit, every component of the group will receive the same evaluation, based on the performance of the group as a whole.

The Final Report will consist in a 2,000 word referenced essay to be developed from a list of questions which is enclosed in this Handbook. The **deadline for the submission of the report is Friday December 5th, 2014, at 23:59.** Submission has to be done electronically by sending the report (preferably in word format) to the following email address:

r.orsi@pari.u-tokyo.ac.jp

Schedule

Lectures are scheduled as according to the following table:

	Day 1 (25 Oct. 2014)	Day 2 (1 Nov. 2014)	Day 3 (8 Nov. 2014)	Day 4 (29 Nov. 2014)
Location	Room 204, School of Law Building	Room 429-433, No. 14 Building, Faculty of Engineering	Room 429-433, No. 14 Building, Faculty of Engineering	Room 429-433, No. 14 Building, Faculty of Engineering
9:00-10:40	Lecture 1	Lecture 5	Lecture 9	Lecture 12
11:00-12:40	Lecture 2	Lecture 6	Lecture 10	Lecture 13
14:00-15:40	Lecture 3	Lecture 7	Lecture 11	Lecture 14
16:00-17:40	Lecture 4	Lecture 8		Lecture 15

General Readings

The numerous topics covered by this course can hardly be covered by any single work or textbook. However, because of the centrality and recurrence of certain core ideas within social science research, reading the following text:

John Gerring, *Social Science Methodology. A Unified Framework*, Second Edition, Cambridge: Cambridge University Press, 2012

is recommended.

Lecture Description and Readings

Day 1 (Saturday October 25th, 2014)

Lecture 1: Introduction to the Course

(lecturer: Dr. Roberto ORSI)

Course introduction, general description of the course, its content, its assessment system. This introduction provides an overview of the course in terms of its content and its structure. It describes the purpose of the course, the way in which it is articulated, how seminars function, what the topics of the various lectures will be, and how the course will be assessed.

Readings:

There is no specific reading for this lecture, however students are kindly asked to bring the present Course Handbook with them.

Lecture 2: Science, Epistemology and Methodology

(lecturer: Dr. Roberto ORSI)

Introduction to the general terms of the question of why the production of science is tied to philosophical discussion on the nature of knowledge – epistemology – and how these in turn influence the way in which the scientist is supposed to operate, having therefore a "method". The study of methods is "methodology". The basic rationale of this lecture will be historical, in the sense that the various concepts will be introduced following their appearance in the history of scientific thought, from Early Modernity to the contemporary era.

The lecture proceeds historically through a reconstruction of positivistic approaches to scientific production and the successive layers of critique (Quine, Popper, Kuhn, Lakatos). It illustrates the meaning of "science", "theory", "hypothesis", "evidence" and other relevant terms. It will provide an overview of the various ways in which "science" has been conceptualised, and of the outstanding questions to this day. Interestingly, what is normally called "science", whether "natural" or "social" is far from having a unified methodological outlook, as different disciplines and branches proceed "scientifically" with very different methodolofical approaches.

Readings:

Peter Godfrey-Smith, *Theory and Reality*. *An Introduction to the Philosophy of Science*, Chicago and London 2003.

Martin Hollis, *The Philosophy of Social Science: An Introduction*, Cambridge 1994.

Paul K. Moser (ed.), *The Oxford Handbook of Epistemology*, Oxford 2002, Chapters 13 and 14.

Lecture 3: Methodology of Social Sciences

(lecturer: Dr. Roberto ORSI)

This lecture provides an introduction to the problems of social science and the various epistemological and methodological traditions in this field. It focuses on the specificity of social sciences as opposed to natural science, particularly considering the difficulty in achieving objectivity as complete separation between the researcher and the studied object. It deals with the problem of positivism in the social sciences and the various ways in which it has been re-framed and/or critiqued. Again in this lecture the main narrative will follow an historical order of how the most basic concepts of any reflection on the idea of social science came into being. In particular, the lecture will concentrate on how different definition and analytical approaches to what a "society" is, produce and/or are themselves the product of different methodological approaches. The problem of objectivity in the social sciences will be introduced alongside with the question of emancipation, although a more thorough discussion in these themes will follow in Lecture 13. The lecture will briefly introduce the quantitative/qualitative divide, which will constitute the topic of successive four Lectures (5 & 6 on qualitative methods, 7 & 8 on quantitative methods).

Readings:

William Outhwaite and Stephen P. Turner (eds.), *The Sage Handbook of Social Science Methodology*, Los Angeles 2007, especially Chapters 1 and 2.

John Gerring, *Social Science Methodology. A Critical Framework*, Cambridge 2001.

An interesting reading may also be: John Law, *After Method: Mess in Social Science Research*, London 2004.

Lecture 4: Stages of Social Science Research

(lecturer: Dr. Roberto ORSI)

This lecture illustrates the various steps in the process of creating social science research, observation, formulation of hypotheses, collection, selection and interpretation of data, testing of hypotheses. Every step has a series of possible implications for the result of the research, and the way in which social science research is organised also varies from one discipline to the other, and even within the same discipline in accordance to difference epistemological paradigms. In particular, in the natural sciences, the template of research proceeds through the stages of hypothesis development, prediction, experiment, and confirmation (by other researchers). In the social sciences however, there can be (as discussed more in detail in Lecture 9) a considerable methodological pluralism. The social science researcher proceeds therefore normally through the following stages: choice of research design (various designs are often available), data gathering, data analysis, and interpretation of the findings. The lecture will illustrate with several examples the various stages and how they interact.

Readings:

Norman Blaikie, *Designing Social Research*, Cambridge 2009.

Kenneth Bailey, *Methods of Social Research*, 4th edition, New York 1994, Part 1.

Day 2 (Saturday, 1st November 2014)

Lecture 5: Quantitative Methods I (how to quantify non-quantitative phenomena)

(lecturer: Professor Atsuo KISHIMOTO)

This lecture focuses on numbers. First, it illustrates the various methods of quantification of non-quantitative descriptions. Quantitative information could improve the quality of decision making and leads to evidence-based decision making. Second, it describes the limitation of quantification. Lastly, it investigates the way safety and environmental standards are developed from interdisciplinary perspective.

Readings:

Professor Kishimito will distribute the reading material previous to his lectures.

Lecture 6: Quantitative Methods II (introduction to cost benefit analysis)

(lecturer: Professor Atsuo KISHIMOTO)

This lecture introduces the concept and method of cost benefit analysis (CBA). The CBA is not only useful but also essential to be accountable for every R&D and decision making from investment on science and technology to judicial judgment. The concept of CBA itself is simple, but the practice of it has various challenges and limitations. Several actual examples are shown.

Readings:

Professor Kishimito will distribute the reading material previous to his lectures.

Lecture 7: Qualitative Methods I

(lecturer: Dr. Roberto ORSI)

This lecture introduces methods of social research on objects not easily quantifiable and which are used in order to explore the human dimension of social phenomena, and focus primarily on the study of culture and identity. These methods, which include ethnographic fieldwork, participant observation, surveys, interviews etc… require particular forms of interpretation and hence the re-framing of the meaning of "social science" in a way that explicitly encompasses the position of the social scientist within the research framework (self-reflexivity). In this first lecture on qualitative methods, the various types of qualitative research are illustrated, namely case study, ethnographic research, action research, and design based research.

Readings:

Sarah J. Tracy, *Quantitative Research Methods*, Oxford 2013, Chapters 1-3.

Martin Packer, *The Science of Qualitative Research*, Cambridge 2011.

Lecture 8: Qualitative Methods II

(lecturer: Dr. Roberto ORSI)

This lecture continues the exploration and description of the various qualitative methods and their background epistemological foundations. Going beyond the discussion on the different types of quantitative methods, it illustrates different techniques for data collection, namely: document analysis in its various forms (conversational analysis, discourse analysis, narrative analysis, hermeneutics), interviews (structured, semi-structures, unstructured interview), participant observation, and surveys.

The lecture will insist particularly on hermeneutics and the importance of understanding the context of social acts (the object of study in social science), which occur in a historically-defined environment. The study of history emerges therefore as one of the privileged ways to articulate a well-grounded qualitative study.

Readings:

Same as lecture 7.

Day 3 (Saturday 8th November 2014)

Lecture 9: Methodological Pluralism and Eclecticism

(lecturer: Dr. Roberto ORSI)

The lecture provides an overview of how contemporary research often requires the combination of different methodological perspectives. It is indeed more and more difficult to explain complex social phenomena, left alone to design social policies, exclusively from one single disciplinary perspective. Aspects of a complex phenomenon have to be studied from different angles, but the production of a unified narrative, both for purposes of scientific communication and of policy-making, requires its amalgamation and this on turn entails several methodological questions.

Readings:

Alan Bryman, "*Barriers to Integrating Quantitative and Qualitative Research*", in *Journal of Mixed Methods Research*, 2007, 1, 8, pages 8-22. Text accessible at: https://www.andrew.cmu.edu/user/skey/research_prev/reading/integrating%20quantitative%20and%20qualitative%20study.pdf

Abbas Tashakkori and Charles Teddlie, *Mixed Methodology. Combining Qualitative and Quantitavive Approaches*, London 1998.

Lecture 10: Methodological Problems in Nuclear Industry and Nuclear Energy Policy

(lecturer: Dr. Tatsujiro SUZUKI / Guest Speaker)

Please note that the content and readings for this lecture may be subject to slight change.

The lecture will be primarily based on actual case studies dealing with nuclear energy policy issues after 3/11. The following case studies will be presented.

1. Accident Cost Estimate: Cost estimate under huge uncertainties:
   - From September to November of 2011, sub-committee on nuclear power and nuclear fuel cycle technologies of Japan Atomic Energy Commission (JAEC) discussed possible methodologies to estimate costs associated with serious nuclear accident, such as the Fukushima accident.
   - The case studies described the process in which members of the sub-committee finally reached the consensus on the methodology which was adopted later by the government.
2. Nuclear Fuel Cycle Policy Options: Comprehensive assessments and policy implications
   - The sub-committee identified three basic policy options and presented the comprehensive assessments of various policy options.
   - The case study described process to establish major criteria to assess the three options and difficulties, including difficulties in economic assessment methodologies including costs associated with “policy change” which have major policy implications.
3. High-level Radioactive Waste(HLW) Disposal: A trans-science issue
   - In September 2012, Science Council of Japan (SCJ) issued a “Response to the Request made by the JAEC” on HLW disposal issue. The Response suggested fundamental reform in HLW

disposal policy in Japan, and recommended new approaches such as “Temporal Storage” and “Total Quantity Control”.

- JAEC responded by issuing a “Policy Statement” in December 2012, acknowledging the need for reform of current HLW disposal program, while disagreeing with SCJ’s recommendation on “temporal storage” and “total quantity control” as the solutions to the HLW disposal programs
- The case study describes the differences of risk perception among stakeholders and illustrates the difficulties associated with the process incorporating non-technical (social, political and ethical) factors in solving technical issues.

Readings:

http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_e.pdf

http://www.aec.go.jp/jicst/NC/about/kettei/kettei120718_e.pdf

http://www.aec.go.jp/jicst/NC/about/kettei/121218_e.pdf

Lecture 11: Social Science and Legal Methods

(lecturer: Dr. Chiaki SATO)

The lecture provides an overview of legal methods as a social science. It is indeed difficult to say legal methods are purely “science” but there are two kinds of legal methods: theoretical and empirical or policy oriented. In this lecture, after understanding opportunities and limitations of legal methods, specific examples, such as vaccine use promotion and medical accidents, are provided in order to clarify in what ways legal methods can be considered a social science.

Readings:

R Kramer DB, Tan YT, Sato C, Kesselheim AS (2013) “Postmarket Surveillance of Medical Devices: A Comparison of Strategies in the US, EU, Japan, and China”. PLoS Med 10(9): e1001519. doi: 10.1371/journal.pmed.1001519

Text accessible at:
http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1001519

Day 4 (Saturday 29th November 2014)

Lecture 12: Ethics of Social Science Research

(lecturer: Dr. Roberto ORSI)

The lecture provides an overview of the ways in which ethical questions can arise during the research process, and illustrates various approaches to these issues. The fashion in which research methods are conceptualised and designed must therefore always entail a reflection on the ethical implication of the scientist's work, both in the sense of having an ethical consideration of the human relations within the research process, and on the impact that the research itself is likely to have. The lecture illustrates the relations between ethics and social science research first of all by briefly introducing the basic questions of ethics, alongside with several technical concepts and main orientation in this field. Ethics is broadly defined in the Western tradition as the set of philosophical discussions concerning the question of "what is good?", namely aimed at defining the nature of good behaviour. Whether contextual or absolute, various proposed ethical theories have penetrated the debate about the rightful conduct of researchers in all academic sectors, including the social sciences. Here ethics becomes apparent in research activities whenever human subject and/or their dignity and interest are involved, and potentially affected, or damaged or harmed, by the researcher's action. Any research project must therefore take explicitly into account the ethical impact and implication which it may potentially give cause to.

Other ethical aspect of research concern the issue of correct behaviour within the context of the academic community, particularly regarding the correct handling of truthful research results, and the problem of plagiarism as the unethical (and illegal) appropriation in one's name of other researchers' work.

Readings:

Mark Israel and Iain Hay, *Research Ethics for Social Scientists*, London 2006.

Lecture 13: Objectivity and Emancipation in the Social Sciences

(lecturer: Dr. Roberto Orsi)

The lecture returns to the issue of defining the terms of scientificity in the social science by highlighting once more the problem of objectivity against the background of the several examples and case studies illustrated in the course. Objectivity is an apparently simple concept indicating the condition of a (scientific) proposition about the world whose validity does not depend on the particular subject who is articulating and expressing it. It can be explained as a lack of bias or influence from contingent factors which disturb the attainment of real knowledge (i.e. knowledge of the object in its true nature). However, on the one hand philosophers and scientists have developed a much more sophisticated view on the topic in the light of the difficulties inherent to completely separate the knowing subject and the object studied in the course of any cognitive process. On the other, particularly, albeit not exclusively, in the domain of social science, the "absence of bias" and of other contingent factors disturbing an allegedly aseptic production of knowledge on the society,

appear problematic because the social sciences appear to have been established precisely with the goal of using the acquired knowledge for the betterment of the human condition (emancipation).

The emancipation concept is again controversial precisely because it may have a variety of origins, and of goal, reflecting its inherently political nature. The social sciences have been growing increasingly aware of the problem of emancipation, not only in relation to the ethic of social research but as one of the main factors contributing to the existence itself of many social scientific disciplines.

The lecture will provide an overview of this cluster of questions, presenting a variety of different positions on the various topics, alongside with examples from different disciplines.

Readings:

Gayle Letherby, John Scott, and Malcom Williams, *Objectivity and Subjectivity in Social Research*, London, Sage Publications, 2013.

Lecture 14: The Role of Science and Other Legitimate Factors in Setting International Food Safety Standard

(lecturer: Ms Makiko MATSUO)

The current world is characterized by an increasing "scientization" in setting technical standards. Science is indispensable in the consideration of developing safety standard. Without it, we would not be able to set any safety standards. Yet, it is also acknowledged that science is not the only basis of decision making - other consideration, the so-called "other legitimate factors (OLFs)" which includes socio-economic factors, value, etc, are the other basis that decision makers has to take into account. The issue of science and OLFs become most contested when there is an uncertainty in scientific facts and when the issue is complex. The issue becomes even more difficult at international level, as there is another nature specific to international relations - anarchy.

This lecture addresses the above issue using some of the cases debated at the *Codex Alimentarius* Commission - an international food standard setting body jointly established by FAO and WHO.

Readings:

Makiko Matsuo, Matsuda, H. and Shiroyama, H., (2011) “Global Governance,” in *Sustainability Science: A Multidisciplinary Approach*, Vol.1 edited by Komiyama. H *et al*., UNU Publications, 2011. pp. 220－245

Lecture 15: Wrap-up Lecture

(lecturer: Dr. Roberto ORSI)

This lecture briefly summarises the content of the course, and it constitutes a further occasion for students to ask questions and explore unclear topics. In the seminar following this wrap-up lecture, students will have to deliver their group presentation as part of the assessment scheme for this course.

Introduction to Social Science/Assessment

Choose one of the following questions and develop you answer in a 2,000 word referenced essay. The deadline for this assessment is Friday December 5th, 2014, at 23:59.

Please send your essay in electronic format (word file) to r.orsi@pari.u-tokyo.ac.jp

Questions:

1) What is scientific positivism? Assess its influence in the social sciences.
2) What epistemological elements may underpin the divide between the "natural" and the "social" sciences?
3) "We cannot know the reality in itself, but only propositions about our perception of the reality". Discuss with reference to the history of science.
4) Define what "scientific method" is. Why do scientists need to be aware of epistemological/methodological debates?
5) "Science is always for someone and always for some purpose". Discuss with reference to your area of research.
6) What are the advantages and limitations of methodological pluralism?
7) How does social science contribute to the formulation of social policies?
8) Are there ethical limits to social research activities?
9) What are the ways in which social scientists can evaluate future technological changes and their impact on the society?
10) Consider the issue of nuclear policy in Japan. What is the role of the social sciences in its assessment?
11) Describe and assess the role of both natural and social science in establishing standards of food security.