UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Decision Making

2526-1-FSG02A007

Learning objectives

There are many ways of setting up **the study of decision processes**. And, based on the ‘questions’ we decide to ask Nature — the decision phenomenon we want to study —, we can get very different answers.

The questions we ask of Nature can be oriented by our practical goals or by our previous training path.

Those who are particularly versed in logic or mathematics will easily find themselves comparing some ways of reasoning in logic or mathematics with those of the decision-makers they intend to study. And he or she will easily come to see how little the ways of reasoning of the experts he/she is observing resemble the ways of reasoning of logic and mathematics with which he or she is familiar.

Someone, passionate about neurology and (more or less) versed in neuroimaging, might find it interesting to observe decisions from behind the monitors of a PET, a SPECT, or an fMRI, ending up not understanding much of the why and how of a decision, but obtaining a more than satisfactory sense of scientificity.

Still others, such as the teacher of this course, may be interested in how certain experts reason and the most effective way to teach someone to reason (and decide) like them. Having the awareness that reducing decisions to reasoning means missing out on a lot of the decision phenomenon, and that there are many different ways of studying ‘reasoning'.

And in addition to these there are also the experts of a particular sector, those who have to make decisions in their field, who from a course in the psychology of decision-making processes would like operational indications to “do better”, to make better decisions. And they mostly don't get them. Either because the questions they would like to ask Nature are different from those that scholars like to ask, or because for the most part scholars are not so expert in the details of application fields other than their own discipline.

To a disenchanted observation, a wide level of naivety abounds in many ‘suppliers’ of knowledge about decisions, enthusiastic promoters of their “universal” ideas, and in many consumers of this knowledge, ready to accept anything in the hope of increasing their power over the world.

The first objective of this course—**the knowledge and understanding of the psychology of decision-making processes with particular attention to businesses and public organizations**—is to reduce students' naivety about the knowledge currently existing about decisions and to help them choose with care and *disenchantment* the 'suppliers' of knowing about the decisions to listen to — based on the aspects relevant to them in the decision that interests them.

The second objective of the course—**the ability to apply the concepts learned to the analysis of concrete cases**—is to provide students with some *concepts to analyze* their own 'reasoning' processes (and those of others), highlighting the starting assumptions and the mental operations made starting from these assumptions. With the aim of accustoming the students to *apply this type of analysis* to the reasoning involved in the decisions — their own and those of others — which they consider important to understand better.

The third objective—**the ability to apply the notions learned and the experiences gained during the course to decision-making in businesses and public organizations**—is to *familiarize* students with the contexts and processes of reasoning and decision of the *business world*, those who make *technological innovation*, and *public organizations*. This objective is pursued with the participation of some experts in the lessons and with a series of mandatory readings to be chosen from a list of texts relating to these areas.

In addition to these three objectives, the course also aims **to develop communication skills in the description and analysis of a decision-making process**, and **to promote in the student the ability to learn independently** on the processes that constrain and regulate decision-making in specific companies or in specific public organizations.

Contents

The course is structured around some key concepts (each with a set of accessory concepts) useful for analyzing reasoning and decisions.

In the manner of constructivist teaching*, from time to time, the teacher will invite students starting from their experience of their decision processes (or of others' decision processes that are problematic for them) and will help them to abstract from these experiences the concepts object of the lesson.

The purpose of this teaching method is to try to actually change the way students observe their own and others' decision processes. This modality is adopted because the alternative and more classical modality — according to which 1) the teacher introduces the linguistic label of the concept, 2) provides a description and some examples, and 3) the student during the exam preparation predisposes to being able to return description and examples of the concept when the teacher indicates its linguistic label — it tends not to modify the student's effective reasoning and decision ability.

Constructivist teaching makes the most of teacher-student interaction (and student-student interactions). For this reason, attendance at lessons is highly recommended.

The verification of the skills learned, in constructivist teaching takes place both in itinere, during the lessons, and at the end of the course, and is centered on evaluating whether the student is able to abstract the concepts proposed from the material provided by his personal experiences, and whether he is able to construct chains of reasoning using the concepts he has abstracted.

Non-attending students are invited, if they will consider it useful, to use the reception of students as an opportunity to verify what they have learned, and to accentuate the attention they will devote to the study of recommended textbooks.

The constructivist didactic approach used during the lessons does not exempt students from the more traditional

“mnemonic” study of the texts proposed in the bibliography. It simply takes note of the fact that traditional “menmonic” study alone tends not to permanently change the student's skills beyond the exam date. And that, only if the student has previously experimented in class a construction of concepts starting from his/her own personal experiential material, does the mnemonic study of the texts in the bibliography have the hope of leaving in the student something that goes beyond the mere preparation to “pass the exam”.

- See e.g. 1) Grennon Brooks, J. & Brooks, M.G. (1993/1999) In search of understanding: The case for constructivist classrooms. Alexandria, VA: Association for Supervision and Curriculum Development (ASCD). 2) Glasersfeld, E. von (1983) “Learning as a Constructive Activity”. In: Bergeron, J. C. & Herscovics, N. (ed.) Proceedings of the 5th Annual 083 Meeting of the North American Group of Psychology in Mathematics Education, Vol. 1. Montreal: PME-NA, 41–101. Without bothering the Socratic method, which also shares many aspects with constructivist didactics, the teaching that the teacher will try to do is guided by the phrase of Michel de Montaigne “Mieux vaut une tête bien faite qu'une tête bien pleine.” (Essais, I, 26) and from that of Dante Alighieri “Non fa scienza, sanza lo ritenere, avere inteso.” (Paradiso, V, 41-42).

Detailed program

The concepts that students will be helped to abstract from decision-making situations of their own experience have to do with:

1. The different ways in which it is possible to set up the study of decision processes. With particular focus on the advantages, disadvantages of different ways and the uselessness of seeking “the definitive way” to analyze decisions. The concept of theoretical pluralism and cognitive pragmatism.
2. How to keep the linguistic and phenomenal dimensions in play in the analysis of 'reasoning', using William James's metaphor of the Stream of thought.
3. To build a theory of knowledge or a theory of beliefs around the idea of adaptation to the environment proposed by Charles Darwin.
4. To use the concepts of Nominalism and Realism to classify the ways of reasoning that guide decisions.
5. To explore forms of reflective thought and an interactionist perspective in the study of decisions: putting the observer in observation.
6. To explore how the material dimension is relevant in the reasoning of decision makers, and the micro interactional dimension in decisions.
7. Models of the mind as a unique information processor and models of the mind as a plurality of inner dialogues.

The seven key concepts proposed to students during class discussions were developed by various research traditions in the fields of philosophy (James-style nominalist Pragmatism, Genetic Epistemology, Radical Constructivism), psychology and anthropology (again nominalist Pragmatism, North American and Italian Interactionism, Ethnography of reason). In order to obtain a high grade on the exam, students must study (in the traditional way, “mnemonic”) the proposed bibliography and be able to highlight during the examination the relationships between what they did in class and the manufacture of similar ideas by the authors cited in the books.

Prerequisites

No previous knowledge of the topics to be treated is required.

Some students, especially those who are better at preparing exams mnemonically, may find it more difficult to get involved in the teaching methodology of the course. In them, the habit of reading the bibliography, preparing the

exam mnemonically, giving it, and passing on, may prevail.

The invitation, for these and for all other students, is to try to take the opportunity offered by the course to reflect, in the way proposed by the course, on their own (and others') ways of thinking and make decisions.

Students who are good at preparing exams mnemonically will still have the opportunity to show this ability by studying the proposed bibliography with particular care. In class and during the exam, however, they must also be able to accompany this competence with the ability to formulate personal thoughts and observations on their and others' decision processes.

Teaching methods

The lessons will be held in person in a delivery mode with moments of interactive discussion on practical cases. No recordings of the lessons will be available on the Moodle platform. No hours of lessons will be delivered remotely (on-line).

As described above, the lessons will take the form of teacher-led class discussions. They will be centered around facilitating in the students the construction of the concepts that are the objective of the lesson, starting from their personal experiences of decision processes.

Based on the students' needs, segments may be provided in a delivery-only mode dedicated to the teacher's offering of information and explanations on the bibliography.

For the part of the course dedicated to the familiarization of students with the contexts and processes of reasoning and decision of the business world, of those who make technological innovation, and of public organizations, participation in some lessons of expert decision makers who have worked or are working in these areas is foreseen (including Ing. Giorgio Garuzzo, former General Manager of the Fiat group). The same teacher has, for more than twenty years, held the role of decision-maker in the investment sector as a portfolio manager. During these moments, students will be guided by the teacher to interact constructively (interactive discussion) with the expert decision maker present.

Assessment methods

For attending students, an **ongoing assessment (during class discussions)** is planned on the development of their decision analysis skills shown. This will be accompanied, for attending and non-attending students, by a **final test in the form of a final oral exam on the reference texts and the topics covered in class**: with 1) assessment of the possession of the notions present in the texts in the bibliography and covered in class, of the ability to present, understand and apply concepts, autonomy of judgment and ownership of language, and 2) verification of the reading of the text chosen from those proposed for the familiarization of students with the contexts and processes of reasoning and decision-making typical of the business world, of those who make technological innovation, and of public organizations.

Part of the reference texts for the exam are in English. Students who have difficulty with the language (or who wish to do so for other reasons) can replace the publications in English with the alternative bibliography in Italian as indicated below. For all students, the lessons and the exam will be held in Italian.

Textbooks and Reading Materials

Mandatory text to be used as a reference and to deepen the study of the concepts built in the classroom

- de Waal, C. (2022) Introducing Pragmatism: A Tool for Rethinking Philosophy. New York: Routledge. – Chapters 1 to 4 in full, plus the parts indicated in class from chapters 5 to 8 and chapters 11 (Richard Rorty), 14 (Legal Pragmatism), 16 (The End(s) of Philosophy).

alternative in Italian:

- Santucci A., edited by, (1970, reprint 2017) Pragmatism. Novara: UTET / De Agostini Libri. — the following chapters: PEIRCE: Il fissarsi della credenza, Come rendere chiare le nostre idee; JAMES: Il sentimento della razionalità, La corrente del pensiero, Il significato del pragmatismo; MEAD: Psicologia sociale e comportamentismo, La relazione della mente con la risposta e l'ambiente; SCHILLER: La verità; VAILATI: Sull'importanza delle ricerche relative alla storia delle scienze, Alcune osservazioni sulle questioni di parole nella storia della scienza e della cultura, Pragmatismo e logica matematica.

Optional text on Radical Constructivist theory of knowledge

- Glasersfeld, E. von (1995/2016) Il costruttivismo radicale: Una via per conoscere e apprendere. Roma: Odradek. Also available in the original edition in English: (1996/2013) Radical Constructivism: A way of knowing and learning. London: Routledge.

Optional text on material aspects in decisions

- Livingston, E. (2008) Ethnographies of Reason. Aldershot, England: Ashgate Publishing.

Mandatory bibliography for students' familiarization with decisions in the business world, technological innovation, and public organizations

One mandatory text chosen from the following list, to be read "like a novel":

- Garuzzo, G. (2018) Quando in Italia si facevano i computer. Tricase, Lecce: Youcanprint.
- Garuzzo, G. (2012) FIAT, i segreti di un'epoca. Roma: Fazi Editore. Also available in English: (2014) FIAT: The secrets of an epoch. Berlin: Springer.
- Michellone, G. (2021) Una Fiat che fu: Quando con i calzoni corti facevamo l'antiskid. Milano: Guerini Next.
- Bueno de Mesquita, B. & Smith, A. (2012) The Dictator's Handbook: Why Bad Behavior is Almost Always Good Politics. New York: PublicAffairs.
- Bueno de Mesquita, B. (2011) L'Uomo del Destino. Milano: Rizzoli. Also available in the original edition in English: (2009) The Predictioneer's Game. New York: Random House.

Sustainable Development Goals

INDUSTRY, INNOVATION AND INFRASTRUCTURE