

Dempster-Shafer theory. Probability modal logic is a non-normal, monotonic logic, but a special one in the sense that it defines a probability distribution, so certain rules in order to follow the axioms of probability have to be considered. To achieve this, the talk will be divided into two parts: Firstly, we will introduce the system itself, defining a series of new rules for dealing with probability metrics, and also introducing a generalisation of contexts in dialogical games that we will call "hypercontexts". The second part of the talk will be the logical and philosophical justification of the creation and use of these hypercontexts, in particular for subjective logic and its variations (mainly Dempster-Shafer and subjective logic). We will defend that the use of hypercontexts instead of contexts allows defining imprecise probabilistic beliefs, and thus permit us to play modal dialogues in which agents state probabilistic beliefs with a certain degree of uncertainty. To close the talk, we will show the link between this dynamical approach to probabilistic modal logic and a more traditional model-based semantics, in which the use hypercontexts has a similar relationship with neighborhood semantics as contexts to Kripke semantics. Although having different approaches, in this case the dynamical and the model-based semantics have to agree in a fundamental issue, probability is deeply connected to classical logic, and this has to be reflected in all its possible logical interpretation of probabilistic formulas.

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### **The absence of epistemic peerhood in Education Sciences: notes on methodological impacts**

Epistemic peerhood reflects concerns about the impact that errors can have on humanity. Underlying it is the questioning of what happens when people with similar levels of training, understanding, and access to data come to different conclusions (Frances, 2010; Gelfert, 2011; Kelly, 2005), which holds the suggestion of error or at least incomplete theory construction.

However, what concerns emerge in scenarios where agents who are not epistemic peers nevertheless make similar conclusions? Or different conclusions? Is there, in any of these situations, error or suspected error? Will the situations require any rapprochement, compromise, or consensus?

This questioning is relevant in Education Sciences, because this essay suggests, that this scientific area is not subject to epistemic peerhood, since its agents do not assume similar values, interests and knowledge and they act from different contexts It proposes to analyze the consequences of epistemic peerhood absence on educational research, which is relevant because Education Sciences must question about what knowledge is and how it can be achieved. It approaches the constructs of education and Education Sciences under the lens of Complexity Theory (Silva, 2019, 2020), draws on epistemological perspectives that welcome the diversity and power of agents (Feyerabend, 1991, 2010; Harding, 1992, 2004, 2015; Longino, 1990), and mobilizes very preliminary data from an ongoing study on the epistemology of the Education Sciences, to suggest that the

absence of epistemic peerhood has methodological consequences leading to (a) dispensation of mimicry of scientific methods, (b) insufficiency of modest positions (attitudes of revisiting knowledge must be added), (c) the need for the uncovering of non-linear elements, (d) the impossibility of epistemic superiority at the outset, (e) praxical rather than epistemic peerhood, and (f) intersubjective assertiveness - and these become characteristics of the epistemic status of the Education Sciences.

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#### **Scientific Methodologies in Regulatory Science: is there an Optimum Choice?**

In this contribution we analyze the question if there is such a thing as a "best scientific methodology" in regulatory science. Regulatory science is the use of scientific methods and data for supporting decision making in the regulation of science and technology. The latter includes, for instance, the regulation of chemical substances, genetically modified foods, pharmaceuticals and health claims on foods.

On the basis of case studies of several regulatory processes, we argue that there does not exist any single best scientific method for generating decision-relevant data. In fact, we show that in regulatory science the most suitable methodologies often differ from what is considered "best practice" in academic science. What goes by the most adequate scientific method can and will –justifiably and rationally– vary according to context and use.

Our analysis shows that in regulatory science epistemic factors do not necessarily play the principal role in the selection of methods. Rather, often it is the non-epistemic objectives of a particular regulatory process which determine what counts as the most appropriate scientific method. And these non-epistemic objectives, in turn, may in certain cases be influenced by the needs and preferences of the relevant stakeholders (like, for instance, consumers or industry).

We conclude that –in spite of the influence of non-epistemic factors– methodological choices in regulatory science can generally be understood as rational choices. In addition, engagement of the regulators with the stakeholders is one possible strategy that might allow to minimize possible conflicts between regulators' methodological choices and stakeholders' non-epistemic objectives.