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Proposal for an oral communication

Title:

The effects of a socially acute question on the evolution of the biological sciences curricula: the case of farm animal welfare

Abstract

Farm animal welfare (FAW) has been the subject of heated debate in European societies since the 1960s, in particular, the acceptability of intensive (or industrial) livestock farming. The European Commission gave educating breeders and citizens a central role in the actions to improve FAW set out in its strategic plan 2012-2015. The concept of animal welfare is complex and interdisciplinary with disciplines originating in the biological sciences such as anatomy, physiology, neurosciences, ethology, animal husbandry but also other disciplines originating in humanities and social sciences such as ethics, economy...The knowledge is under construction and the controversies are acute both between and at the heart of each of the disciplines.

In France the BEPA (a national vocational certificate) in animal production qualifies the student to become a stockman and the Bac Pro CGEA (a vocational baccalaureate in farm management) provides access to the position of breeding manager. These two qualifications carry increasingly large stakes within a political context in which the onus is on developing alternative breeding practices focusing much more on the question of animal welfare. Each curriculum has been regularly updated since 1985. Our research focuses on how the socially acute question of FAW has been progressively introduced (or not) into the *curricula* of these two vocational qualifications.

We firstly carried out a socio-epistemological study of animal welfare in order to identify the different aspects present in the process of knowledge construction. These results have enlightened our analysis of the evolution of animal welfare in the *curricula* of the vocational baccalaureate (Bac pro) and the national vocational certificate (BEPA).

Our results reveal the progressive introduction, since 1992, of animal welfare into the *curricula*. At first, it was an educational/political question only present in the vocational section of the *curricula* (describing the occupations targeted by the qualifications) from 2008 onwards. Knowledge relating to animal welfare is progressively fleshed out as the *curricula* are updated but even today the concept remains largely simplified. It only concerns two vocational disciplines and the scientific knowledge is far from explicit. Indeed, the question is still presented in a neutral fashion; the controversial aspects are totally overlooked.

Thus, it is left up to the teacher to decide which scientific, social and vocational knowledge to teach in order to help students design ways of incorporating the notion of animal welfare into their breeding practices. The prescriptions do not incite teachers to clarify their ethical stance, which is nevertheless pivotal when teaching socially acute questions.

Key words: farm animal welfare, curriculum, didactics of socially acute questions, vocational education.

Synopsis (1000 words)

Farm animal welfare (FAW) has given rise to heated debates in Europe since the 1960s and reflects a “*curious paradox*” because “*whereas our knowledge is closing the gap between humans and animals our lifestyle is widening it [...] Calves, chickens, pigs are now bred – or rather produced – out of sight, in industrial bunkers*” (Belpois, 2013). Consequently, the main criticism is directed at intensive (or industrial) breeding methods. The controversies raised by the notion of FAW stem from a permanent dialectic between ethics and the biological sciences.

Several scientific disciplines, in particular the neurosciences and animal ethology, are causing profound upheavals as research develops into animal cognition (Boissy *et al.*, 2006; Boivin *et al.*, 2012). But, consideration of this knowledge under construction, requires an ethical questioning which is rarely explicit during the debates. Moreover, there is currently no commonly agreed definition of animal welfare to facilitate the exchanges between stakeholders. Nevertheless, the majority of scientists agree that the mental state of the animals should be situated at the very heart of the concept (Dawkins, 1990) although precisely what this mental state is remains to be defined.

Educating professional breeders and citizens about animal welfare has been taken into account only very recently (European Commission, 2012). We question the impact of this socially acute question on the teaching prescriptions set out for teachers who are training future breeders: when was animal welfare introduced into the *curricula* and in what form? Which knowledge should be taught and which controversial/consensual aspects associated with animal welfare actually appear in the *curricula*?

Theoretical background

Animal welfare is a socially acute question according to the definition given by Legardez and Simonneaux (2006): it is an issue which provokes debate in society, it is acute in terms of the reference knowledge and in terms of the knowledge taught (which remains non-stabilized in the school *curricula* and in didactic practices).

We situate our work within the theoretical framework of the didactics of socially acute questions (Simonneaux & Legardez, 2011) to enable us to consider the acuteness and complexity of the questions raised by the notion of animal welfare inasmuch as they are based on knowledge which is contextualized, non-stabilized and distributed among a multitude of knowledge producers.

Moreover, we adopt an ergonomic and historico-cultural approach to the activity of both teachers and students (Amigues & Lataillade, 2007). An analysis of the prescriptions given to these stakeholders in the *curricula* is essential to gaining a subsequent understanding of how the prescriptions influence the actions initiated during teaching-learning situations.

Following on from Amigues, we consider the prescriptions as artifacts which spark tension and debate which at some point require taking a stance (*idib.*).

Methodology

First of all we carried out a socio-epistemological analysis of the notion of FAW (methodology developed by Simonneaux, 2000) with the aim of studying an issue in the making. We studied what has been said both in the field of research and in the media since the controversies first surfaced. We chose to summarize the results graphically, using the concept map designed by Novak in 1972, to render the networks of notions and concepts both visible and legible in an attempt to define the content of the FAW concept (Novak and Cañas, 2006). Certain adaptations of Novak’s concept map helped us discover the networks of concepts and notions identified and also revealed their acuteness, at a given time, during the socio-

epistemological analysis. The results of our analysis were subsequently used to clarify the second stage of our methodology which consists in examining how the *curricula* of the two French vocational agricultural qualifications have evolved.

We focused on the *curricula* of the BEPA (a national vocational certificate) and the Bac Pro (a vocational baccalaureate) which respectively qualify students to become stockmen and breeding managers. We took an historico-cultural approach when studying the prescriptions which have been established between 1985 (the year these qualifications were created) to the present day. Based on a traditional analysis of content, our goal was to study the “historical compromises” which have been made as the reforms in connection with animal welfare have progressed and to identify how the references to FAW and the associated notions, concepts and learning objectives have evolved in the *curricula*.

Findings

Thanks to the socio-epistemological study of the question of FAW we were able to bring to light two main levels of controversy tied in with : i) the definition of animal welfare: ii) “how” FAW should be taken into account. Several examples of *cognitive dissonance* (Festinger, 1957) were observed between what the stakeholders (breeders, consumers, scientists, politicians...) judge to be morally sound and how they actually go about their day-to-day activities. The concept map of the FAW issue will be presented at the ERIDOB conference. It brings to light a set of complex networks between the concepts and interdisciplinary (biological, ethological, ethical, social...) notions along with many hotbeds of acuteness.

Thanks to our analysis of how the *curricula* have evolved, we can underline the fact that from 1992 onwards the FAW concept has figured in the *curricula* of the two qualifications as a result of an educational/political choice. Indeed, only in 2008 does animal welfare first appear in the vocational section of the *curricula* where the occupations targeted by the qualification are described. FAW is only associated with two vocational disciplines (animal husbandry and agricultural equipment). The sources of tension, identified in the socio-epistemological analysis, are absent from the *curricula*. The question of FAW has been neutralized and only certain aspects are referred to. Consequently, the network of concepts and notions is largely fragmentary compared to the one brought to light by the socio-epistemological analysis. Very few elements are given to teachers to help them identify the knowledge under construction and the multidimensional nature of this question.

Therefore, it is left up to the teachers to define the scientific, social, vocational knowledge but also the ethical postures to consider when teaching their students how to respect the welfare of the animals they breed. The next part of our research will focus on how teachers tackle these incomplete and guided prescriptions relating to FAW given that most of them have received no training whatsoever in the scientific disciplines (ethology, neuroscience and psychology) or in ethics even though these aspects are central to the questions raised by farm animal welfare.

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