

When teaching the “Science & Politics of the GMO” is itself political

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Introduction

This project is an ethnographic exploration of my experience as a graduate teaching assistant for Cornell University’s 2016 edX Massive Open Online Course, “Science and Politics of the GMO.” I take the current reality of academic science—one where there are very real, conflicting pressures for scientists to be simultaneously independent, to collaborate with industry, and to extend their research into public engagement—as my starting point. By situating the course within a broader historical and sociological analysis of agricultural biotechnology and the Land Grant University, my object of study includes the efforts to problematize “the GMO” within the course itself.

TABLE 1 The GMO in historical context

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| 1862 | President Lincoln signs Morrill Land Grant Act |
| 1865 | Cornell University founded |
| 1887 | Hatch Act est. agricultural experiment stations |
| 1914 | Smith-Lever Act est. cooperative extension service |
| 1973 | Asilomar conferences begin deliberation of safety of newly discovered recombinant DNA |
| 1980 | Diamond v. Chakrabarty ruling on patentability of GMOs; Bayh Dole Act streamlines patents of federally funded research |
| 1992 | Flavr Savr tomato first USDA-approved GM crop |
| 1994 | Commercialization of rbST by Monsanto; developed at Cornell |
| 1996 | First herbicide-resistant crop introduced |
| 1999 | "Transgenic pollen harms monarch larvae" <i>Nature</i> article by Cornell's Losey causes controversy |
| 2013 | Federal GE Food Right to Know Act fails in Congress |
| 2014 | Cornell Alliance for Science founded on Gates Fdn. grant |
| 2015 | US-RTK Organization begins using FOIA to make industry-academia relationships public |
| 2016 | GMO WTF protest course launched at Cornell; Cornell's "Science and Politics of the GMO" MOOC ran |



The GMO MOOC: A snapshot

A core theme of this course is the complex scientific and political nature of the term “GMO.” While predictably presenting general material on genetics, scientific controversy, scientific consensus, and science communication, course designers chose to *not* provide students with a singular definition of “GMO.” Over the five weeks, we challenged students to develop their own working definition of the term through a recurrent “GMO Journal Activity.”

Along with this critical reflection, we asked students to consider the following Discussion Question:

As we close out the first week of the course, we’d like you to take a few minutes to reflect on our course title: “Science and Politics of the GMO.” Why do you think we choose to include “the GMO” instead of just “GMO?” How is it different? What do you think is at stake in the answer?

The following is a sampling of the nearly 150 student responses. As the following selections from my extensive qualitative data illustrate, emergent themes include the students’ appreciation for the complexity of “the GMO” beyond its purely scientific attributes, the social construction of facts and the perceived neutrality of science, and the difficulty in defining the topic of “GMO” in simple terms.

Calling the course “The Science and Politics of the GMO,” to me clearly signifies that we are referring to the controversial issues surrounding GMOs. The fact that each project is under extreme scrutiny for every aspect of the process from funding to distribution. Saying “the GMO” highlights the fact **that this is not a simple problem with simple solutions.**

...The article ‘the’ on the title gives emphasis on **the whole concept of ‘the GMO’** - principles, technologies, values, importance, safety, issues, regulations, and all other related things that surrounds it. This, personally, makes THE difference on how we should look at the arguments surrounding GMOs at a deeper perspective and at a different angle...

Because science **nor** politics are **neutral.**

Using the terminology “the GMO” implies that this course studies **more than the technical aspects of GMOs** and analyzes the concept of GMOs. This concept includes aspects of the GMO controversy including social and political issues surrounding GE technology.

By calling it “The GMO” you are emphasizing GMOs as **an object of social construction.**

‘The GMO’ is a social construct, a debatable term which means different things to different people. Crucially, **this construct carries a lot of baggage**; its vagueness permits its misappropriation.... To many it represents agro-industry and the environmental problems and inequalities in wealth and power that come from modern industrial farming.

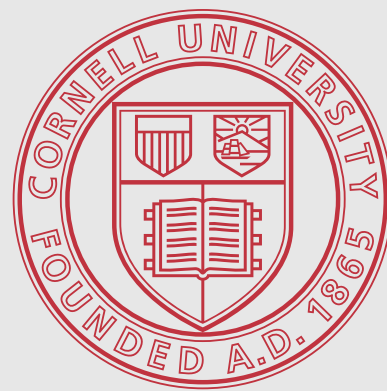
Conclusion

My broader work looks at the tensions present when the Land Grant mission meshes with “pure” science and commercialization pressures – especially in terms of agricultural biotechnologies. The experience I have had as a participant in designing this MOOC is an important piece of this “biotech at Cornell” narrative I seek to tell. As the lone critical social scientist on the team, I struggled to find a way to introduce the meta-level politics of the course into the content itself—including its contestable funding, its clear bias and outreach bend, and its larger institutional and political-economic (hi)story.

As the above data demonstrate, the simple, yet deliberate use of the article “the” in the course title, in addition to the activities focused on complicating the definition of “GMO,” become an entry point into deconstructing the different levels of politics of and within this course.

References

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