

# Supplemental Material

*CBE—Life Sciences Education*

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## Supplementary Material

Supplementary Fig 1. Discussion topic networks representing the dynamics of discussions on Genetically Modified Organisms (GMO) in online and in-person settings. In the center of each map is 'GMO Online' and 'GMO In Person,' representing the respective discussion modes. Nodes branching off lead to questions Q1-Q6, while connections illustrate the relationships between questions and responses. The corresponding questions are as follows: (Q1) What was your perspective on the relationship between GMOs and the environment before consuming this material? Did you have a firm stance on the topic prior to this class? If so, when and how was that opinion formed? (Q2) Describe what you believe to be the most compelling environmental benefit of GMOs. What about your biggest environmental criticism? (Q3) Can you think of examples where GMOs have helped poor rural communities that are being affected by climate change? For those examples, can you think of an alternative solution without GMOs? (Q4) A few specific GMO examples were given at the end of the lecture. Choose one and either defend it (i.e. the benefits outweigh the costs) or make a case against its implementation. (Q5) Small farmers using transgenic crops become dependent on larger companies that own seed patents. These patents make it illegal to plant last year's seeds and force the farmers to continue buying from GMO companies. Do you have a problem with this, and if so, what solution do you propose? (Q6) A major criticism of GMO research is that the scientists involved often have conflicts of interest. Does this make you skeptical of conclusions coming out of the scientific literature? Are you less likely to believe a result if the study was funded by a GMO for-profit company? Can you think of another industry where this has happened before?

Black lines denote responses that repeat a class example, visually emphasized by the thickness of the lines. Blue lines signify the establishment of connections between concepts, and purple lines indicate instances where examples demonstrate a transfer of knowledge. The thickness of both blue and purple lines corresponds to the frequency of occurrences. Rectangular boxes surrounding each question display the number (#) of times they were repeated if it was more than once, providing insight into the frequency of different discussion points. The network offer a visual representation of the discourse dynamics and topic relevance within each discussion modality.



