

The Market for Kidneys: Bridging Introductory Courses in Economics and Ethics

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ABSTRACT

This article contributes to the literature on interdisciplinary teaching by describing, analyzing, and evaluating an interdisciplinary intervention while students are still gaining disciplinary grounding. The intervention bridges courses in microeconomics and ethics. It focuses on the travelling concepts of voluntariness and value in a potential market for kidneys and finds that a 15-minute video clip on travelling concepts can help students build interdisciplinary skills. Students in a control group watched a clip only on the specific issue of a market for kidneys, but not using travelling concepts. An exploratory survey (N=44) indicates that the intervention increases interdisciplinary skills more than the control. However, students in the control group reported a deeper interdisciplinary grasp of that specific topic. Teaching an issue through travelling concepts can hence be seen as an investment in general interdisciplinary skills.

Keywords: Interdisciplinarity, Travelling Concepts, Video clip, Economics, Ethics, Value, Voluntariness

INTRODUCTION

There is scant research on but growing interest in interdisciplinary teaching (Klein, 1990; Spelt et al., 2009). One tool used in interdisciplinary research is the idea of travelling concepts (Bal, 2002). I believe, with Bal, that analyzing how concepts are defined and used differently across disciplines is a key way of building interdisciplinary knowledge and skills. Given the dearth of

interdisciplinary teaching techniques, a logical question is: are travelling concepts a useful tool to teach interdisciplinary skills? I will try in this paper to answer this question by describing, analyzing, and evaluating an interdisciplinary session on the topic of a market for kidneys. The travelling concepts used in the intervention are value and voluntariness, and the disciplines are economics and ethics.

Interdisciplinary skills are useful for students to overcome the limits of a monodisciplinary perspective. They are often touted as increasingly valuable and necessary in order to solve complex societal problems. In addition, irrespective of problem-solving benefits, they bring intellectual stimulus and satisfaction as they allow students to come to “a more comprehensive understanding” (Newell, 2001: 2).

Literature suggests that the use of video in higher education can bring learning benefits (Noetel et al., 2021). The intervention was delivered through a knowledge clip, i.e. a short video clip explaining one topic. However, the focus of this article is not about evaluating the use of video clips for interdisciplinary teaching. Rather, it is about the use of travelling concepts for interdisciplinary teaching: does a video with travelling concepts work better than one without?

I find that using travelling concepts is indeed useful to build students’ interdisciplinary skills in the framework of Reppo and Szostak (2021). In particular, students gain in perspective taking but also disciplinary grounding: by seeing the differences with another discipline, the nature of each discipline becomes clearer. Travelling concepts are also a useful tool to help students find common ground between different disciplines. Finally, travelling concepts can help students learn about the difficulties of integration when trying to form an opinion or a recommendation on whether we should have a market for kidneys. However, there seems to be some short-run opportunity cost of using travelling concepts in teaching. The control group of the intervention was exposed to an interdisciplinary explanation of the market for kidneys, but without using travelling concepts. This group reported a somewhat better interdisciplinary understanding of the specific issue, but a somewhat smaller increase in general interdisciplinary skills. All in all, the intervention and exploratory survey described in this article suggest that travelling concepts are indeed a useful tool to teach interdisciplinary skills.

LITERATURE REVIEW

Before describing the intervention in more detail and analyzing its results, it is important to have some basic disciplinary knowledge that is used in the intervention. This section provides the necessary disciplinary grounding to understand the challenges and opportunities of the intervention. As we shall see, the concepts of voluntariness and value have different meanings in

economics and ethics. They only travel to a certain extent. Where economics has relatively thin conceptions of them, ethics has thicker and more demanding conceptions. This will be important to understand how the intervention using these travelling concepts can help in teaching interdisciplinary skills.

The market for kidneys

Should we have a market for kidneys? The answer to this question has far-reaching implications: in 2014, over 3,000 people died in the US alone while they were waiting for a kidney transplant (Brennan & Jaworski, 2015: 8). Like most countries in the world, the US bans the sale of kidneys and only allows donations. Markets may help solve the underprovision of kidneys, but at what cost?

Economics teaches us that competitive markets are efficient: they reallocate goods from those with the lowest marginal cost of producing them to those with the highest willingness to pay for them. The prohibition of getting paid for donating a kidney can be considered an extreme price ceiling (at a price of zero), leading to correspondingly extreme efficiency losses: people with a high willingness to pay not getting one, and people who could have made money from their kidneys not getting any (Pindyck & Rubinfeld, 2015: 333-335). Yet many ethicists object to markets in organs. They worry about increasing commodification as we transition from “having a market economy to being a market society” (Sandel, 2013: 10). Specifically, they worry for two sets of reasons. The first is about coercion or weak agency: given economic inequality, poor people might be coerced by their circumstances into selling their kidney. The second is about corruption: by accepting a market for kidneys, do we risk undervaluing the body as a collection of marketable spare parts (Satz, 2008: 279) rather than as something sacred?

It seems that economics as a discipline would favor a market for kidneys, while ethics would be against (although see Brennan & Jaworski: 2015). I argue that these conflicting visions can be understood by considering two travelling concepts: voluntariness and value. These concepts are used in both economics and ethics, but their meanings, while similar, differ in important ways. The different understanding of the concepts clarifies the different judgment on a market for kidneys. For a transaction to be voluntary to an economist is not the same as for an action to be voluntary in the eyes of an ethicist. Similarly, for a commodity to have value to an economist is not the same as for someone to value something in the eyes of an ethicist. Through the prism of these travelling concepts, students can start to appreciate the differences between economics and ethics as disciplines.

Economics: value as the price on a market with voluntary transactions

In economics, the natural way to think about the donation of kidneys is in terms of a market with a price of zero. When the government prohibits the sale of kidneys for money, this can be analyzed as a price ceiling of zero (see e.g. Pindyck & Rubinfeld, 2015: 334). It is a key insight from economics 101 that price ceilings are inefficient, leading to artificial scarcity and black markets.

Markets are the meeting place of supply and demand. The supply curve shows how many units people are willing to sell at any given price. Suppliers are ranked from low to high prices. Based on economic theory of profit maximization, the supply curve of a good is determined by its marginal cost. The more costly it is to produce a good, the higher the price suppliers will require for it. Since one can live with only one kidney, some people may find donating a kidney (almost) without cost. Other people may find it somehow more costly to supply a kidney; perhaps they have high-paying jobs and taking time off for the operation would cost them a lot of money. Or perhaps they have only one kidney that functions properly, so giving one away would cause them significant health costs.

On the other side of the market, the demand curve shows the willingness to pay of consumers. Those with the highest willingness to pay are put first. Based on economic theory of utility maximization, consumers' willingness to pay is equal to the marginal utility from one additional unit of the good. Some people may value a kidney more because they are in more urgent need. Note that basic textbook economics tends to ignore that in reality, people's willingness to pay is limited by their ability to pay. If two people would experience the same increase in happiness from a new kidney (assuming one could measure that), the one with the higher budget will likely have a higher willingness to pay.

Perfectly competitive markets, it is argued in economic textbooks, maximize efficiency due to the voluntary nature of transactions. They do this by making sure that goods are produced and (re)allocated from those who value them least to those who value them most, i.e. up to the point where supply equals demand. The proof of this statement hinges on transactions being voluntary: if A sells something to B for price p , and both A and B agreed on this voluntarily, then it must be the case that B values the good more than p , and A values it less. Hence voluntary transactions by definition increase total wellbeing. Since this process can be assumed to continue until there are no goods allocated to someone that someone else values more, perfectly competitive markets maximize efficiency.

The value of a good, in economics, can be equated to the price prevailing on a market in equilibrium, i.e. a market where the process of voluntary exchange has come to a standstill because there are no more

efficiency-enhancing transactions left. The market price has a signal function. The higher it is, the scarcer the good, and hence the more valuable. High prices encourage people not to consume too much of something. In contrast, low prices signal that a good is not very scarce or valuable.

When the market for kidneys is forbidden, this implies a price ceiling of zero. When kidneys can only be exchanged at a price of zero, there are people who would be willing to pay more than zero but not getting a kidney. And there are people who would be willing to sell a kidney who are now not making any money. Hence there will be a welfare loss compared to the market equilibrium.

Talking about a market for kidneys in this matter-of-factly style may feel uncomfortable. Is the sale of a kidney really the same as the sale of an apple, a watch, or a car? The next section documents the reasons ethicists have provided for our unease. At the same time, once one has been trained in economics, it becomes hard not to think of voluntary transactions and value in this way. That is because the idea of a market is a threshold concept (Meyer & Land, 2005; Zepke, 2013): once learned, it becomes hard to un-see it. Relatedly, an interesting feature of concepts is that they function as miniature theories (Bal, 2002: 22). In order to explain the concept properly, one needs to explain the underlying disciplinary theories. It is precisely this feature of concepts that explains why looking at the travelling concepts of voluntariness and value in the market for kidneys can shed so much light on the differences between economics and ethics.

Ethics: voluntariness as positive freedom and value as pluralist

To what extent do the concepts of voluntariness and value travel from economics to ethics? Superficially, they travel well – in line with their meaning in everyday language. However, given more thought, there are crucial differences. Broadly speaking, the concepts seem thicker or richer in ethics, making them – as we shall see – more demanding.

In ethics, it is hard to think of voluntariness without thinking of freedom. In particular, an action is voluntary if it is in line with freedom. Isaiah Berlin (1966) famously distinguished between negative and positive freedom. Negative freedom means being free from outright coercion – not having a gun to your head. Positive freedom means being effectively free to pursue one's goals. It is more in line with virtue ethics or the capabilities approach of Amartya Sen and others. It requires for people to have the means (such as money, time, or education) to thrive and autonomously pursue meaningful goals.

The distinction between negative and positive freedom immediately makes clear where ethicists and economists differ in their idea of voluntariness. In economics, a transaction is voluntary if it is not subject to

outright coercion – in effect, economics uses the standard of negative freedom. Ethicists, in contrast, will point out that we could and perhaps should use the higher standard of positive freedom to judge voluntariness. In a very unequal world, the choice set of the poor may be so limited that they effectively have very little or no choice but to sell their kidney. They need to sell their kidney in order to feed their children, for instance. The different standard for a transaction to be voluntary is one key reason for the different opinion of economics and ethics on markets for kidneys.

To wrap up on voluntariness, its travelling from economics to ethics as pleading for markets for kidneys is limited by the ethical objection of coercion. Where economists favor markets because voluntary transactions maximize efficiency, ethicists worry about people being effectively coerced to sell their kidneys at low prices to rich people. In this light, markets for kidneys seem to make the right to health and survival conditional on wealth, rather than markets being a neutral device to maximize efficiency. In other words, ethicists would argue, in the unequal world we are living in, economists conflate willingness to pay and ability to pay.

The second key concept, value, also travels well superficially, but less well in terms of supporting markets. The key reason is the possibility of value being corrupted. Economists see markets as a neutral device of finding out what the value of something is, i.e. how scarce it is when we confront supply and demand. Value then, is a relatively simple and thin concept. It is also contingent: it is not absolute, but determined by where supply and demand happen to meet. Ethicists have a much broader conception of value, allowing for the notion that value can be corrupted. Just as prostitution would desecrate or undervalue sex and marriage, a market for kidneys would corrupt altruistic motives and desecrate the human body.

A seminal work on how the concept of value is different in economics and ethics is Elizabeth Anderson's (1993) book *Value in Ethics and Economics*. In economics value is monistic (of one type) and hence all goods are commensurable: they can be compared on a common scale of value, namely the price on a competitive market. In contrast to the economic and monistic conception of value, Anderson develops a pluralist theory of value: "We care about things and people in different ways, which express [...] different modes of valuation, such as love, respect, and admiration" (p. 6). A good is corrupted or a practice is degrading if it values a good according to a lower mode of valuation than it deserves. In particular, human beings are worthy of respect and consideration, rather than being seen as a useful source of kidneys. To the extent that markets would promote the use of lower modes of valuation, they corrupt.

To summarize, the concepts of voluntariness and value have different meanings in economics and ethics. They only travel to a certain extent. Where economics has relatively thin conceptions of them, ethics has thicker and

more demanding conceptions. Within the context of the market for kidneys, these differences in conceptualization can make or break the case for allowing a market in kidneys.

The next section on research methods provides the context, discusses the intervention, and presents the motivation and intended objectives.

RESEARCH METHOD

This article focuses on the “the market for kidneys” in the interdisciplinary PPE program at Utrecht University. After having discussed our syllabi of microeconomics and ethics and public policy, we – the teachers of these courses – saw the topic as a natural way to bridge these monodisciplinary first-year courses in an interdisciplinary way. While activities related to the market for kidneys have been part of the program from the beginning, the use of the travelling concepts of voluntariness and value was only tried in the fourth cohort. The focus of this article is to see whether the use of travelling concepts is useful in teaching interdisciplinary skills. Hence a treatment group was exposed to travelling concepts and a control group was not. A survey gives insight on the learning benefits.

Context

In 2018, Utrecht University (UU) launched a bachelor program in Politics, Philosophy, and Economics (PPE) with the addition of History as a fourth discipline. In many ways, the PPE program shows UU’s commitment to interdisciplinarity. It was an explicit ambition of the program to not just consist of a multidisciplinary offering of courses to be taken in parallel to each other. Rather, the program is designed to have meaningful interdisciplinary interactions.

The PPE program is selective, admitting only 75 students per year. The program is taught in English, and a majority of students are not from the Netherlands. One of the criteria for admission is that students should at least be open to the four disciplines. Prior courses are not required, but students should be willing to engage with all four disciplines. This means that students are explicitly choosing for an interdisciplinary program.

One way of thinking about depth of interdisciplinarity is Repko & Szostak’s (2021) classification. First comes disciplinary grounding: understanding the types of subjects, questions, methods, and concepts used in a given discipline. Next comes perspective taking: being able to take multiple disciplines to bear on one issue. If a program only offers parallel courses in different disciplines, arguably it can never guarantee students moving beyond this second stage. Roughly, the second stage corresponds to the idea of multidisciplinary (several disciplines in parallel) rather than

interdisciplinarity (a meaningful interaction between the disciplines). Third is finding common ground: realizing what the similarities and differences of disciplines are in terms of subjects, questions, methods, and concepts. Finally, there is integration: creating a creative synthesis of the disciplines. This can happen by adding or modifying disciplinary concepts. It is easiest to understand in terms of giving an answer on a question or a recommendation for addressing an issue that takes the different disciplinary insights into account.

The PPE program seeks to take students through the four levels of interdisciplinary skills. In the first year of the program, students are trained in disciplinary grounding. The second quarter of year 1, for instance, has introductory courses in economics (course name: Microeconomics) and philosophy (course name: Ethics and Public Policy). While the focus in year one is on disciplinary grounding, multi- and interdisciplinary bridges are created both throughout the teaching weeks and during a dedicated “step back week”. The second year of the program has interdisciplinary courses, co-taught by lecturers from different disciplines. The third year consists of electives and an interdisciplinary thesis.

Towards the end of the courses, the lecturers from both the economics and the ethics course discuss the market for kidneys from their disciplinary perspectives. We make explicit to the students that this is intentional. Our teaching centers on the example of organ shortages as a societal problem requiring an interdisciplinary approach. The economic analysis is centered on the concepts of voluntary transactions, consumer surplus, producer surplus, price ceilings, excess demand, and deadweight loss. The ethics analysis brings in arguments of commodification, corruption of value, dignity, and (economic) coercion. In both courses, the instructors attempt to describe and bring into their own disciplinary world the concepts from the other discipline. After students have been exposed to both the economic and ethical perspectives, there is a classroom debate on the topic.

The author is a lecturer in the economics course. This could be a source of bias. However, this study is about interdisciplinary skills, and not about the importance of economics. In addition, the author has some training in philosophy and discussed the intervention with colleagues from ethics.

Intervention

In 2022, I introduced an intervention with the explicit use of voluntariness and value as travelling concepts. Study participants were the students in the Microeconomics course of the PPE program described above. The course takes place in the second quarter of the first year of this interdisciplinary bachelor’s program. Fifty students participated. The majority of students are between 18 and 20 years old. The program is

international, with students predominantly from Western European nationalities.

Figure 1. Screenshot from treatment group

Kidneys and travelling concepts

- Should we allow a market for kidneys?
 - Markets for kidneys are banned almost everywhere, except Iran
 - Many people are sick or dying for want of a kidney
 - You can live with just one kidney
 - A market for kidneys may increase supply
 - There are ethical arguments against a market for kidneys
- This clip explores the issue using travelling concepts
 - Concepts that travel across or are used in different disciplines
 - Meaning of the concepts may vary across the disciplines
 - Here: “voluntariness” and “value”

Figure 2. Screenshot from control group

Kidneys, coercion, and corruption

- Should we allow a market for kidneys?
 - Markets for kidneys are banned almost everywhere, except Iran
 - Many people are sick or dying for want of a kidney
 - You can live with just one kidney
 - A market for kidneys may increase supply
 - There are ethical arguments against a market for kidneys
- This clip explores the issue using coercion and corruption
 - Two objections against markets popularized by Michael Sandel
 - Popular book “What Money Can’t Buy: The Moral Limits of Markets” documents the expansion of markets (e.g. paying someone to wait in line) and explores whether we should ban markets in certain spheres

Prior to the debate, half of the group watched a short knowledge clip on the market for kidneys making explicit reference to the idea of travelling concepts, and how they can shed light on disciplinary differences. This knowledge clip covered the travelling concepts of value and voluntariness as explained in the literature section. Figure 1 shows a screenshot from this knowledge clip used for the treatment group. The other half watched a knowledge clip of similar length also talking about the economic and ethical perspectives, but not about the notion of the travelling concepts value and

voluntariness. Instead, it focused on the objections of coercion and corruption as used by Sandel (2013) against organ markets. Figure 2 shows a screenshot from this knowledge clip used for the control group. Both knowledge clips were recorded by me. Due to the covid pandemic, students watched these clips at home.

Motivation and intended objectives

How can thinking about the market for kidneys and the concepts of voluntariness and value help students develop interdisciplinary skills ranging from disciplinary grounding to interdisciplinary integration? Focusing on a societal problem as an opening to interdisciplinarity is in line with the view of interdisciplinarity being necessary to address complex societal issues. The hope is that picking a real and pressing societal issue will make the motivation of interdisciplinarity more natural, rather than having students perceive it as artificial and purely pedagogical. This relates to the idea of authentic learning (Herrington et al., 2014). Indeed, some students may not see the need to build interdisciplinary skills in general, while they may see the need to address a complex societal issue, which then requires an interdisciplinary approach. This is similar to the use of real-world physics problems to teach and motivate mathematics.

Given the disciplinary outlooks outlined above, it is to be expected that during the ethics class students would be against a market for kidneys, and during the economics class they would be in favor. This may result in confusion or “aporia” (puzzlement), which is productive to the extent that it drives home the point that different disciplinary perspectives may lead to different answers to societal puzzles.

The exercise of perspective taking (switching between the economics and ethics perspectives) may also clarify the epistemologies of the two disciplines. By confronting the disciplines, each discipline’s assumptions, theories, and ways of answering questions become clearer. Perspective taking can hence help with disciplinary grounding as well. One can think of this as the idea of signifiers in language being defined in opposition to others. Children learn what a cat is by comparing it to, say a bird (a cat has no wings), a stuffed animal (a cat moves autonomously), or a person (a cat cannot talk). By seeing how ethics and economics approach a market for kidneys and use concepts differently, a similar thing is accomplished: students see more clearly what the disciplines are by understanding their differences.

In addition, students can learn from this puzzlement that disciplines may be incommensurable: solutions or policies may be independently better or worse on disciplinary axes but there is no easy way to come to one unified judgment or metric, i.e. to arrive at interdisciplinary integration. This incommensurability may frustrate some students, but is the goal of

(interdisciplinary) education to produce final conclusions and “solutions” (Stoller, 2020), or is it to stimulate critical thinking? Adding ethics next to economics, but also more generally combining disciplines can reduce a fixation on “solutions” and easy answers. Students may also gain increased understanding of and respect for policymakers who have to accomplish the integration of different perspectives into policy decisions.

RESULTS

This section is based on a survey conducted in 2022 after the experiment with travelling concepts. The 25 students in the treatment group watched a knowledge clip called “voluntariness and value”, explaining what travelling concepts are and giving the examples of voluntariness and value regarding the market for kidneys. The control group of 25 students watched a knowledge clip called “coercion and corruption” also on interdisciplinarity and the market for kidneys, but not introducing the idea of travelling concepts. Both clips lasted about 15 minutes.

After watching the clips, the students were invited to take a short online survey. The response rate was 88%: 44 out of 50 students filled out the survey (21 from the treatment group and 23 from the control group). Table 1 summarizes the results of three questions on a 1 to 5 scale (disagree to agree):

- *The knowledge clip helped me to come to a well-founded opinion on whether a market for kidneys should be allowed*
- *The knowledge clip helped me to think about the market for kidneys in an interdisciplinary way*
- *The knowledge clip improved my interdisciplinary skills also beyond the market for kidneys*

Table 1: Survey results, average of 1-5 score disagree-agree (N = 44)

Item	Control group (N = 23)	Travelling concepts (N = 21)
Well-founded opinion	3.0	3.1
Interdisciplinarity kidneys	4.4	3.9
Interdisciplinarity beyond kidneys	3.6	3.9

Given the small sample size, no statistical models were run, and the results should be seen as exploratory. From the answers, it seems both clips helped students more or less equally (3.0 versus 3.1 out of 5 on average) to come to a well-founded opinion on whether a market for kidneys should be allowed. The control group felt more strongly (4.4 versus 3.9) that the clip helped them think about the market for kidneys in an interdisciplinary way.

However, the control group also felt less strongly (3.6 versus 3.9) that the clip improved their interdisciplinary skills also beyond the market for kidneys.

Table 2 shows some quotes from both groups in response to the open question “What did you take away from the knowledge clip?”. They suggest that indeed students in both groups learned about the market for kidneys from an interdisciplinary point of view combining economics and ethics. However, only students in the treatment group reported on concepts being understood differently in the two disciplines.

Table 2: Takeaways from the knowledge clip

Control group	Travelling concepts
<p>“Kidney markets might lead to the poor being somewhat forced to sell their kidney due to coercion [...]”</p> <p>“[...] from an economics standpoint it seems quite clear one should allow kidney markets [...] From an ethical standpoint, coercion and corruption play a role.”</p>	<p>“different disciplines, in this case philosophy and economics, can have different conceptions of words. [...]”</p> <p>“[...] it was interesting to briefly hear the difference in how economics vs ethics understand 'value'.”</p>

DISCUSSION AND CONCLUSIONS

This article has shown how the travelling concepts of voluntariness and value can be used in the context of the market for kidneys to understand the differences between economics and ethics. Thinking about whether or not a market for kidneys should be allowed motivates and stimulates students to train their interdisciplinary skills.

The concepts of voluntariness and value have different meanings in economics and ethics. They only travel to a certain extent. Where economics has relatively thin conceptions of them, ethics has thicker and more demanding conceptions. For instance, value in economics refers to the equilibrium price on a market with voluntary transactions. In contrast, value in ethics is pluralist, and respect and love are seen as higher modes of valuation than use. Within the context of the market for kidneys, these differences in conceptualization can make or break the case for allowing a market in kidneys.

The article described and analyzed an intervention using the travelling concepts of value and voluntariness in the context of a market for kidneys. The intervention consisted of a 15-minute video clip explaining the idea of travelling concepts and applying it to the example. The study also used

a control group, which involved a video clip of equal length but not using the idea of travelling concepts. Both the intervention and the control video clip discussed a potential market for kidneys.

Based on an exploratory survey, it seems that for a given short time investment of 15 minutes, teaching students about travelling concepts is especially helpful at improving their interdisciplinary skills also beyond the specific topic at hand. There may however be a short-run cost in terms of interdisciplinary thinking about the specific issue at hand. However, given the very short amount of time required, it seems like both clips could be combined into one.

Explicitly training students about travelling concepts with a 15-minute clip seems to help them better to develop their interdisciplinary skills than showing them a clip of equal length that only focuses on an interdisciplinary issue without the notion of travelling concepts. However, the latter clip did help students more to think about the issue at hand in an interdisciplinary way, suggesting there is some short-run tradeoff in issue-specific and general interdisciplinary skills. Further experiments and research may try to run similar comparisons in larger groups of students, as well as investigating whether the strong points of both clips could be combined in one clip.

The idea of picking a concrete topic to teach general interdisciplinary skills was motivated by the notion of authentic learning: students are likely to feel more motivated by concrete topics that require an interdisciplinary analysis, than by learning interdisciplinary skills without a real-world application. Since the control group also worked on the same specific topic of a market for kidneys, this study cannot scientifically evaluate the merits of authentic learning. However, based on my perception of students' enthusiasm and engagement, it would appear that the authentic learning approach is indeed valuable, and I plan to continue using it.

Finally, it remains challenging for students to come to a policy recommendation by integrating the two disciplines. Even though this aspect can be frustrating, it was argued that this frustration is productive in making students think about the potential incommensurability of disciplinary insights and move away from a narrow focus on solutions.

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