



Presidential Commission
for the Study of Bioethical Issues

TRANSCRIPT

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SESSION 1: IMPLEMENTING INNOVATIONS IN ETHICS EDUCATION

DR. GUTMANN: Good morning, everybody. It is great to see you all here in Arlington. And I look forward to our meetings. I am Amy Gutmann, I am president of the University of Pennsylvania, and I have the privilege of chairing the Presidential Commission for the Study of Bioethics. On behalf of myself and our vice chair, Jim Wagner, president of Emory University, I welcome you to our 23rd meeting.

I am going to begin, as I always do, by recognizing the presence of our designated federal official, Lisa M. Lee. Lisa, please stand up. Lisa also is our executive director, and a great executive director.

I would like to start out by asking the members of our commission to introduce themselves, beginning with Dan Sulmasy.

DR. SULMASY: Dan Sulmasy, University of Chicago, Department of Medicine, and Divinity School.

DR. ALLEN: Anita Allen, University of Pennsylvania, vice provost for faculty and professor of law and philosophy.

DR. HAUSER: Stephen Hauser, chair of the department of neurology, University of California, San Francisco.

DR. FARAHANY: Nita Farahany, professor of law and philosophy, and director of the Duke Initiative for Science and Society.

DR. KUCHERLAPATI: Raju Kucherlapati, departments of genetics and medicine, Harvard Medical School.

DR. GRADY: Christine Grady from the department of bioethics at the National Institutes of Health Clinical Center.

DR. GUTMANN: Thank you very much. During this meeting we are going to

continue our work on deliberation in bioethics education. Our commission is focusing on the symbiotic relationship between deliberation and education as mutually reinforcing foundations of public bioethics.

Education supports informed deliberation, and robust deliberation, in turn, strengthens education at all levels by its practice of teaching citizens to reason together across our divides to reach the most publicly-defensible practices and policies.

As a vivid illustration of deliberation in bioethics education in action, we are welcoming to our meeting today Dr. Rachel Fink and her biology class from Mount Holyoke College in South Hadley, Massachusetts. Dr. Fink's engagement of her students in the ethical discussion of their science studies by participating in our public meeting today exemplifies one important way in which integrating bioethics into education can help to prepare students to think critically and to deliberate about policy questions with significant ethical dimensions. It is a real treat for us to have Dr. Fink and her class with us, and I would ask you all to stand up so we can recognize you.

(Applause.)

DR. GUTMANN: Welcome, welcome. Before we begin I would like to take a moment to explain how we will take public comments. At the registration table there are comment cards, but all the members of our commission staff also have comment cards. And I would love to ask the staff to stand up so we can also recognize them. We have a great, great staff.

(Applause.)

DR. GUTMANN: So write -- if you have any comments, and we hope you do -- write down any comments or questions -- comments attached to questions that is -- that you have on a card, hand it to any member of our staff, and, time permitting, Jim or I

will read them aloud and respond. If we don't have time, we will definitely log them and review them so all comments get reviewed.

And thanks in advance for participating in our discussion. And with that, I am going to ask our vice chair, Jim, to make some introductory comments.

DR. WAGNER: Really, I have very few. In fact, I think we want to maximize the time for discussion, because I am anticipating intense questions from the group from Mount Holyoke.

(Laughter.)

DR. WAGNER: So, in order to facilitate that, Laura and David, why don't we ask you to come forward? And I will begin the introductions of this opening session.

DR. GUTMANN: Great.

DR. WAGNER: The way we do this, just to remind everyone, is that we hear from both speakers before we open the conversation, or open the session for discussion.

And David, we are going to ask to hear first from you.

David Steiner is director of the Johns Hopkins Institute for Education Policy, and professor of education at JHU, Johns Hopkins University. Dr. Steiner previously served as commissioner of education for New York State, as the Clara and Larry Silverstein Dean at the Hunter College School of Education, and as director of education at the National Endowment for the Arts.

As New York State Commissioner, Dr. Steiner took a lead role in the state's successful \$700 million Race to the Top application to support the redesign of state standards, assessment, and teacher certification requirements. His insistence on including major funding for curricula in that grant led to the launch of Engage NY, Engage New York, the nation's most consulted online curriculum resource.

Most recently, Dr. Steiner directed the SUNY Institute for Education Policy at Roosevelt House in New York.

And I thank you for joining us this morning.

DR. STEINER: Thank you, both. Thank you, Commissioners.

A serious argument can be made that, while we teach American school children multiple materials, largely because we always have, we fail to teach them content that is vital to full participation in the life of contemporary democracy. In how many schools do we teach statistics, computer science, political economics, or media studies? The answer, compared to the 54 million school children, is but a handful. And, even in those schools, the courses unpacking these topics are often electives.

Contrast this with Great Britain, for example, where high school exit exams exist in all of those subjects. This commission is focused on a topic of equal contemporary importance. I need hardly argue to this audience that the topics and associated questions encompassed by bioethics are at once of universal concern and increasingly urgent.

Yet despite the wonderful work of individuals such as my fellow discussant today, or organizations such as the National Institutes of Health office of science education curriculum, the basic resources are plentiful, but a mere handful of American students are being exposed to this material.

Why will it be extraordinarily difficult to change this situation at scale? That is really the focus of my remarks. Who decides what American K-12 students study, and how? The answer, largely, is the state departments of education. And how? Well, in most cases, by specifying how many years of study -- more strictly, Carnegie units, defined as one-hour meeting on five days per week for 24 weeks a year -- students must

study in specific subjects in order to graduate from high school.

In a few cases, like Massachusetts, they require exit exams, rather than defining the Carnegie units. And sometimes, as in the case of my old state, New York, by specifying both. The state thus requires that students study one unit of life sciences, one unit of physical sciences, and one unit either of life or physical sciences, and pass an exam that could be earth sciences, biology, physics, or chemistry. The vast majority of students take the earth science exam. Other states, such as New Jersey, do require at least a credit, sometimes more, in biological sciences.

States also define the learning standards in each subject. Thus, in each state, each state that has adopted the Common Core department of -- the department of education and sometimes the legislature got involved in the approval process, as they are currently in adopting in 15 states -- or in considering -- the Next Generation Science Standards.

Finally, legislation requires that states test children in certain subjects -- in science, three times before they exit from high school. Well, why not simply ask the states to include bioethics in their science standards, in their assessments, and thus ensure that it is studied?

First, every major curricula change is extremely political. One has but to recall the debates over creationism to know that adding essentially normative content to science content at a state level will be anything but straightforward. Look for an important example at how very gingerly the Next Generation Science Standards create a divide between the is and the ought. I quote, "Science knowledge indicates what can happen in natural systems, not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge."

Second, the nation has developed a hair trigger sensitivity over the inclusion of potentially controversial content in its materials for schools. As Diane Ravitch extensively cataloged in her 2003 book, "The Thought Police," textbook publishers seeking a portion of an \$8 billion market self-censor their content on a vast array of topics in order to pass muster with the all-important textbook adoption committees in Texas and Florida and California -- California only for K-8.

While it is true that authority is very gradually shifting to state-level authorization, and even to school districts and even schools, these committees still exercise enormous authority -- that is, the state committees. All manner of subject matter has been regarded as either highly suspect or forbidden all together. Sometimes state action stretches credulity. In Alabama in 1983, the state textbook committee banned "The Diary of Anne Frank" for "being a real downer." Politics and religious belief are especially suspect.

Less this committee believe that sensitivities are rapidly fading, I draw your attention to the sensitivity guidelines that are shaping the most contemporary of all assessments, those designed to teach our students to the new Common Core standards. Here I am going to briefly excerpt and summarize an article I wrote on this subject earlier last year.

Two federally-funded consortium, PARCC and Smarter Balanced, have produced assessments for some 27 states. These consortia issued RFPs to submit test designs that have since become actually administered tests. One of the key requirements concern the industry-guiding principles of building tests, often referred to as universal design.

Universal design guidelines are intended to ensure that assessments are fair to all students. Some of these guidelines are eminently reasonable and, indeed, important.

For example, allowing students with special needs to take an appropriate version of the test, or avoiding language that is likely to insult a particular group of test takers.

The application of these design principles, however well intentioned, are at times neither reasonable nor academically astute. Although they certainly didn't invent them, the granular design criteria that Park and Smarter Balanced require test designers to adopt exclude a whole range of subjects on the grounds that they are potentially upsetting. "Upsetting" is a word you will see again and again.

Most relevant for this committee are the admonitions to test-makers to be especially careful -- especially careful -- with such topics as death and dying; evolution -- I quote, "highly controversial for some groups"; "family problems"; and, quoting still, "the goal is to avoid upsetting test-takers"; "serious illnesses that primarily affect certain groups"; "treatments for serious illnesses," again, upsetting to some students; and, "suffering," "except in historical or literary documents if important to measure the Common Core standards."

This is not enough. Content -- "current events" -- and I am quoting from the Smarter Balanced guidelines -- "current events, e.g. natural disasters, issues raised during political campaigns, can add new topics that may cause fairness problems. Issues that were neutral may become controversial. If the specific guidelines do not offer sufficient guidance in some particular situation, the best practice is to turn to the fundamental rules and ask, 'Will any aspect of the test materials anger, offend, upset, or otherwise distract test-takers?'"

Smart Balanced explains that the goal of excluding these topics is to avoid material that may cause extreme negative emotions in test takers, because "such emotions have the potential to interfere with test performance." The implication is that

some students, presumably those who are less sophisticated or able to manage an emotionally-controversial topic, need to be protected from the potential of being disturbed. In such an empty landscape, one wonders what topics are left for students to explore and discuss. Surely too few that raise interesting and worthwhile questions about human existence.

If I may speak personally for a moment, being involved in the New York State test regime, which has done its own Common Core aligned tests, we pushed very hard on this issue, and we actually were able to include portions of texts, where in those texts some of the ideas were actually controversial, even disturbing. But our legal team advised me that we couldn't actually use any of the disturbing portions in the test.

So, the comfort was that the text itself, if you read the rest of it -- which, of course, you wouldn't, taking the test -- but if you did read the rest of it, you would find serious topics. You only wouldn't find them on your exam paper.

I used Smarter Balanced for the previous examples, but PARCC's guidelines -- the other consortium -- are almost identical. A member of their sensitivity panel -- I didn't make up the title -- reported matter-of-factly that "Some of the obvious topics to flag include drug use and religion, as they might be likely to cause emotional reactions."

These broad restrictions, in my view, underestimate our students and, by stripping out content, served them badly, particularly the most under-privileged -- and that's what I want to focus on. Students from homes with books, with the opportunity to debate multiple topics with parents and peers, with the opportunities to visit museums and learn from all kinds of experiences outside their schools will be less damaged by neutered, sanitized assessments or the materials they summon.

But for those who do not, these tests, reinforced by the equally censored textbooks that are linked to prepping them from these tests, will remove serious opportunities for serious thought and, thus, true education. If teachers know that the exams that matter will scrupulously avoid covering even indirectly naughty issues that provoke strong opinions and advanced concepts that may prove novel for students, and if the textbooks they are given by their states or districts do the same, it makes perfect sense for those teachers to avoid such content all together.

As I have argued, when test designers ensure that potentially emotive material cannot be included in their assessments, they reduce the likelihood that teachers will help students develop the deliberative skills required for democratic participation.

As we turn to the topic of your work, the implications are painfully clear. In her 2001 book, "Moral Questions in the Classroom: How to Get Kids to Think Deeply About Real Life and Their Schoolwork," a Yale University Press publication from Katherine Simon, she studied history, literature, and biology classes in public and private schools. Her findings? Discussion of meaning and purpose and human nature was remarkably thin, if present at all. It appeared in fewer than two percent of all the classes that she visited.

Turning directly to bioethics, as you know, the Kennedy Institute of Ethics at Georgetown University launched the first introduction to bioethics MOOC on their platform. Each of the course's six weeks opens with a TED-style talk from the Institute director, Dr. Maggie Little. A key topic? Our encounters with serious illness.

Prior to giving my remarks today, I discussed key issue areas in bioethics with Ruth Faden, founding director of the Johns Hopkins Berman Institute of Bioethics. Almost every topic she mentioned would be ruled out of bounds, a priori, as a subject of

Common Core aligned assessments and in textbooks in many states: suicide; forced feeding of severely anorexic patients; end-of-life decisions; dealing with dementia; the intersection of medical provisions and the issues of poverty and race.

I had the privilege of looking at some of the curricular materials produced by my fellow panelist and her team. The very first one was about very, very severely deformed babies who were born without an active use of their brain. And it raised very difficult and important questions about abortion, about quality of life. That subject would be ruled out completely of any publicly-available assessment in this country.

In closing, I am not for a moment suggesting that some teachers in some high schools and middle schools will find extraordinary and wonderful ways to incorporate these immensely important topics in their teaching. We have extraordinarily creative teachers, we have a hunger among those teachers for quality materials, for thought-provoking critical thinking, and deep probing of contemporary issues.

I am suggesting that there are serious challenges to be overcome before these appropriately complex, arresting matters are put before the millions of school-aged students who would welcome the challenge of thinking about topics with which, all too certainly, they will have to deal during the course of their lives.

To include bioethics in the curriculum of our schools would represent a major step in recognizing that students thrive when presented with searching material about difficult matters. In protecting them from such opportunities, it is not they who are being childish, but we.

DR. WAGNER: Thank you, David. I look forward to our discussion period.

Laura, it is good to welcome you. Dr. Laura Bishop is head of academic programs for the Kennedy Institute of Ethics at Georgetown University. Dr. Bishop

focuses on curricular and extracurricular initiatives for undergraduates at the Kennedy Institute, and works with professional groups and organizations to identify possible collaborative opportunities for bioethics education.

Dr. Bishop served as the second project director of the Kennedy Institute's high school bioethics curriculum project, and continues to assist high school teachers in developing curriculum resources and courses. She has participated in a number of efforts to train high school teachers to introduce bioethics into their classrooms. It is a delight to have you here. Welcome.

DR. BISHOP: Thank you very much. I am really happy to have the opportunity to speak with you today. And it is great to see familiar faces, including Chris and Dan, and to meet the rest of you.

I am really very excited about the fact that you have so seriously undertaken the look at how we might introduce bioethics education or discussion into classrooms across the country. I think that will be a great legacy of this Commission. I will be speaking primarily about efforts to incorporate bioethics at the high school classroom, although certainly strategies and ideas work for grade levels above and below that age.

As Dr. Wagner mentioned, I have participated in a number of different programs, and have also tried to educate myself about other programs that have existed. And I just want to say that many people have been involved in these efforts. They've tried to use the resources that they have had available, the funding sources that have been provided.

In a recent co-authored article in the Hastings Center Report with my colleague, Lola Szobota, who is a New Jersey State science supervisor, we tried to present a historical overview, as we understood it, of the development of those programs. There have been efforts dating back to the early 1970s. And, as you will have read, they have

taken a variety of shapes and forms. They have been targeted across disciplines, as the Kennedy Institute approach has been, or they have been targeted specifically to science teachers.

They have offered a range of resources, and occasionally have had different philosophical approaches, whether you should use a decision-making model or you should not use a decision-making model, whether consensus should be sought or whether students should be permitted -- as the commissioners do -- to issue statements recognizing that the majority disagrees with where they are, or they disagree with the majority. So the programs have enjoyed different lifespans, usually due to lack of funds. Lola and I tried to summarize the program, so there is a table online where you can see those -- range of resources.

I know you are all convinced that we should include bioethics in some way. You are still figuring out how to do that. But I want to mention a few reasons why we think these programs are so important, and then I will turn to the obstacles that the teachers face. And, if we have time, I will mention some possible approaches to address those obstacles.

So, to prepare students for modern life, we need to teach in a way that cuts across disciplinary boundaries to offer skills and resources that transfer across what is all too often a divide between the classroom and life and learning and career outside of school.

We need to enable students to think critically and creatively about complex issues, to apply concepts, rather than to organize facts. We need to help students develop research and decision-making skills that will permit them to move forward when all the data cannot be known, and when the available information is rapidly changing, and sometimes when the outcomes of these decisions are life-altering.

We need to be sure that students, whatever their chosen career, know that they have the opportunity and responsibility to think about how to act ethically, how they should treat others, what actions should be undertaken, and what should be vetoed or tabled, and how they can live a life of integrity in keeping with their own values.

We need to help students learn how to listen, hear, and understand peers and others who have opinions that differ from their own, and to help students be able to articulate what they believe, and why, so they can share that with other people.

We also need to find ways to engage students in learning, so they see the relevance of what they are learning, and they leave not only with knowledge, but with the abilities to think about new questions, new issues, and new information.

The interdisciplinary study of bioethics provides a very natural way for teachers to reach across disciplines, to engage their students in complex and real issues, to provide relevant learning and research opportunities around topics of contemporary concern. Teaching bioethics, I do believe, would help meet many of the new education standards, both in sciences and in literacy in the Next Generation Science Standards and in the Common Core.

And the other reason to teach bioethics in high school is that it reaches students at the right time. For many, it is the last formal opportunity that they have to address these issues. But it is also a time when they're forming approaches to knowledge and decision-making that they will use in their own lives.

And they are forming themselves as citizens. We have been talking about deliberative democracy, and this is where they learn how to do that. This is also where they turn into the type of people they will be.

So, the Next Generation Science Standards say that, in the decades ahead,

continued growth of the world's population, along with technological advances in scientific discoveries will continue to impact the life of our students. Whether or not they choose to pursue careers in technical fields, they will be asked to make decisions that influence the development of technologies and the direction of scientific research that we can't even imagine today. Consequently, it is important for teachers to engage their students in learning about the complex interactions among science, technology, society, and the environment.

So, the things that we have learned -- and I have to say that a lot of this has been -- is based on anecdotal information from the programs, the teacher self-reports, and some from the students. We are only beginning now to do some of the empirical testing and the data gathering. I think, in some ways, that has been a good thing, because it has allowed these different approaches to flourish and to be tried. But now it may be time to gather the empirical data to prove the impact of these programs.

So we have learned that teacher interest exists, and that high school students are capable of engaging with these issues, that the interest exists across different learning levels and abilities.

Limiting bioethics education to gifted and talented students does not allow you to inform all students, and the entire citizenry. It also may mean that you miss students who actually have real abilities to delve into these issues, because doing well on standardized tests does not mean being able to put yourself in someone else's shoes, or to be able to think creatively about a solution.

We have also learned that bioethics teaching can take place across disciplines. It shouldn't be limited just to biology or science classes. And it shouldn't be limited just to theology or religion classes, if it takes place in a private school. In fusing bioethics

across the curriculum, rather than requiring stand-alone courses is a way to expose more students to the subject matter, to introduce it more quickly into the school system, and to make students aware that ethical issues exist in all subject matters and areas of life.

And it also permits students to engage with traditional high school subjects in a completely different way. We have discovered that multiple approaches are successful, both in teaching bioethics and in teaching teachers about how to teach bioethics. That said, teacher professional development opportunities, usually face to face, and quality curriculum materials are really key.

We have found it best to have teacher training programs face to face, maybe have a midyear or an advanced year check-in, because teachers develop questions as they introduce the materials. And it is also better -- at the institute, the Kennedy Institute -- our plan was always to train more than one teacher from a school or from a region, because then they have opportunities to support one another.

We have also discovered that -- from teacher reports -- that formal curriculum materials, be they well-developed case studies or entire curriculum units, and training them in structured discussion methods, results both in greater use of the materials -- if you just send the materials out there without training the teachers, they won't be used; more successful presentation of the bioethics materials; and it makes the discussion that occurs in the classrooms less contentious and more productive, because both the teachers and the students know how to discuss, how to listen.

My colleague, Jeanne Chowning, who did work with the Northwest Association for Biomedical Research's high school bioethics program has begun to do some preliminary research, empirical research, and it shows that students do seem to develop or improve on important skills, due to bioethics discussions. They identify ethical

issues better, they are able to reason toward a position that is supported by facts and ethical principles. They understand and think about positions other than their own. They recognize more broadly the impact of decisions. And they recognize the connection between science and society.

And the exciting thing is they also report increased interest in the subject matter in which they had these bioethics discussions. They are more interested, they retain information, they can work in a facile way with new questions.

We have also learned that these efforts can be done relatively inexpensively. So it is something that should be available to schools all across the country, because you don't require a lot of equipment -- you don't require, you know, expensive textbooks.

And the last thing is that we have learned that these experiences can be transformative for teachers, as well as for students. We have had some teachers who -- this is not what you want to happen -- but have left high school teaching and have gone, actually, to become clinical ethics consultants. So it can be, you know, a wonderful experience for people.

So the obstacles faced by teachers are -- some of them David alluded to -- but structural and perceptual obstacles. Some of them include class length and scheduling variabilities. Some schools are on block programs. Some -- and so they meet 90 minutes every other day. Other schools are on the traditional model, 42 minutes, but every day. So teachers need to learn how to introduce these materials in very different time periods and settings. The volume of material to be covered is immense, so finding time in the curriculum.

Restrictions on curriculum content -- controversial topics often can't be covered. The focus on testing. You know, we seem to be doing right and wrong thinking so you

can answer the questions, rather than trying out possibilities, being able to experiment. Administrative reluctance, because they don't want to get into controversial topics, or they aren't aware that this can help accomplish educational goals.

Parental concerns -- who don't understand that this is teaching critical thinking skills, research skills, but feel concerned that their own family's religious or humanistic values might be undermined by the discussion. And so the effort to make them aware that it is really a chance for their student to think about these values, and to be able to articulate them to their colleagues and their peers.

And teacher concerns. They think, oh, this is yet another thing to learn, on top of everything else. So trying to do some empirical research to show that that is not true, to -- I think part of your process of preparing educational materials is also preparing materials to introduce these resources to administrators, to teachers, to communities, to make them aware that there is a strong likelihood that studying bioethics can help them achieve the goals of the Common Core, the Next Generation Science Standards, can help them achieve the educational goals that they have for their students.

It is not something on top of everything else, but it can be a coordinating or organizing approach. Case studies or discussions can be touchstones that can be returned to as new science information is covered.

So there is a lack of training and education for both pre-service and in-service teachers, and for academic leaders in schools. As I mentioned, related to that is a hesitancy on the part of teachers to engage in the discussion of these difficult topics, because they don't feel prepared. And sometimes there is even a lack that there are resources available to do that.

So, including some ethical theory training or approaches to discussion methods,

facilitation of classroom discussion as part of pre-service and in-service for teachers.

And then, depending on the area which teachers are in, some basic science knowledge is helpful.

The need for continuing education. It is difficult to keep up on new developments in science and ethics. Some possible ways to approach that are to harness, better harness, our professional societies, whether they be in bioethics or in teaching ethics or in education.

There is a lack of developed curriculum materials in bioethics and other resources appropriate. There are definitely scattered resources, wonderful resources that are available, but there is not a developed curriculum. So we need to decide -- make priorities about the subjects that we would like our teachers and students to cover, and create formal materials for them. Sometimes people don't even know where to look to find them.

And then, the other issue is finances. So there have been really excellent teacher training programs. But in order to run them in a sustained way, you need committed financing to run these professional education programs, and to permit teachers to participate, because their classrooms need to be covered when they go for training.

So there are a range of obstacles that they face. But I hope that during the discussion period we can explore some of the possible ways to approach that, and some of the resources that we already have that will allow us to better implement these resources in classrooms.

DR. WAGNER: Linda (sic), thank you. Actually, I am going to take the privilege prerogative of asking the first question.

It seems to me that we have been talking about -- overall -- have been talking

about barriers, motivational barriers, people who don't want to do this, in addition to some of the very, you know, resource-specific kinds of barriers. And I would like to ask a question about the first one: How is it we motivate this?

It seems to me that one of the values -- by the way, when they told us we should be reading this Smarter Balanced Assessment Consortium, I wasn't quite sure, David, if you were going to speak in favor or in criticism. But there is a value that is implicit in this. It is the value of having educators and test preparers who -- and to be generous to what they are saying here -- who know how to take the distractions out of this, who know how to take the obfuscation away, who know how to take the offense and upsettedness away, in order to get the kernel of an issue. Okay? Or, in their case, a right-wrong issue.

We actually value that same thing, you know? When we are in casual conversation or in formal deliberation around ethics, you know, either collectively we have that aha moment, or some brilliant person says, "Aren't we really talking about just this?" And we all know that breakthrough moment: Now we know what to really argue about. They have actually taken the distractions away for us -- from us.

Are there ways to -- is there something there to advocate for as a pedagogy and process and, ultimately, to test to, that could help us facilitate getting a conversation in bioethics into --

DR. STEINER: I think you have actually put your finger on one of the most destructive aspects of the way we --

DR. WAGNER: What -- [speaking without mic]

DR. STEINER: You have put your finger on one of the most destructive aspects of how we test. The assumption is that every question is tested for its ability to give you

a proper ranking of difficulty. In other words, you don't want a student who is otherwise strong to miss a question that they should get right, and you don't want to, believe it or not, you don't want a student who is actually weak to get a question right that they shouldn't get right. Every question is weighted against those scales.

That is why you can't use a word like "foyer" or "opera" in an assessment, because it is likely that certain groups of students won't know that word, right, and therefore be disadvantaged in answering the question.

The problem, as E.D. Hirsch and others have shown, is that you never respond to a single word. You are always reading in context. There is no such thing as a piece of English literature which appears de novo, out of nothing. Students who do better at finding the main idea or making the inference know more about the world. And so, in restricting these tests to the most granular possible slice, you actually doubly disadvantage the worse-off students, because you send the signal that there is no reason to teach them about the things they shouldn't need to know about.

I have called this patronizing, because I think it is. We need precisely to teach the worst-off students the most about the world, because they find least about it in other aspects of their life. That is what schooling should be.

So, in terms of bioethics, the questions that are being raised exactly are cross-disciplinary, they are drawing on personal narrative, on science, on philosophical issues, and they should be engaging us in rich, contextual knowledge. The tests always worry that I might not have that knowledge. Therefore, I shouldn't be tested on it. It is a double-whammy.

No other country behaves this way, that I know of. In Europe you actually have questions about the nature of belief, the nature of suffering. Right? You treat children

as if they can think. And that is the problem.

DR. GUTMANN: First of all, I want to say how much I admire both of you and what you have done. It is -- you both have careers to date, and I have no doubt will continue to, that are working on incredibly important issues in education, David and Laura, in how you work on bioethics in schools and beyond. So I really admire it.

And usually that preface ends in some challenging question, but it is not. I mean I really want to take what you have said, and see how we can move it forward. So I have -- and I also want it for our public record.

So, let me begin by a famous quote attributed -- and I may paraphrase it -- to Daniel Patrick Moynihan: "Everyone is entitled to his or her own opinions, but not his or her own facts." Right?

DR. STEINER: Right.

DR. GUTMANN: And there is something important in that, and something incomplete in that. The important is for education. We do want to make sure students not only know the facts, but are respectful of the facts. And we also want to make it clear -- and this is what David spoke to in the testing -- that we are not testing people on whether their opinions are good or bad. And that is important.

What is missing there is, of course, we also are entitled to have a set of values and principles, and entitled to be respected for those, if we can give reasons for them, if we are respectful of others.

And I don't see -- so here is the takeaway -- I really don't see, and I doubt if any of us who are -- you know, who are interested in bioethics were ever tested on that in the kind of tests you are talking about. So that -- and I don't think we ought to be. I mean I think -- so that is number one, I think.

But number two is, even though we ought not to be tested, we ought to be educated to be able to speak with others, and argue respectfully, and deliberate about them. And that is where I get to the number two point. And I am going to ask you all to answer a question.

Laura, it is going to be what do you see as the response that you didn't give -- you know, what are the responses to the difficulties?

And, David, what exists outside of testing?

So my second point is that -- and we are facing this, as a society -- if tests hijack the educational landscape, I really don't think there is room for the kind of bioethics education, or the kind of education in history that asks students to learn the arguments that went on in history, and understand them.

I think the educational landscape will be razed -- with a Z -- by tests if they take over the whole. So I -- the question for David is do you agree with that? I mean I -- even if the perfect would be tests that can measure that, we can't let the perfect be the enemy of the good. The good is that tests only take up part of the educational landscape, and there is room for more.

I have more, but I am going to leave it there about tests and about how -- what you wanted to say, but you didn't have time to say about how we could deal with the obstacles. Because I think everything you say is consistent with doing a bioethics education, as long as we don't expect tests to do it, and as long as we don't expect all the barriers to go away.

I don't think -- we could, and we may recommend, that every school does this, you know, and finds a place in the curriculum. But if that is the perfect, we better have the good, which is providing materials, training teachers who want to do this, and

alerting people that tests will never fully educate our students.

DR. BISHOP: Well, across the range of obstacles that I mentioned, there are a variety of different approaches. And I will just mention some of them, perhaps spanning across the obstacles.

But we do have the international baccalaureate programs in schools, and they are one of the approaches that actually does some of the things that I think we would hope would occur in bioethics. So that might be a model or a platform to build on.

And I agree with you, that even -- my hope is that we are teaching students not just to be able to take exams, but actually to function as citizens, to be able to live lives when they end up in a hospital or a doctor's office, and they are trying to decide what should be done for themselves, or what should be done for their baby or their parent. They need to have some ability to be able to ask those questions to figure out what is important to them.

So, even if there is disagreement in a classroom, students are better for knowing the range of opinions and the reasons that people disagree. It sometimes can shape your own position in a different way, but it also makes you aware of things that you didn't know.

We also need to recognize that all teaching and learning doesn't need to take place in a classroom. So some of the resources that you may develop may be outside of classrooms. Perhaps, you know --

DR. GUTMANN: So extra-curricular --

DR. BISHOP: Extra-curricular, or --

DR. GUTMANN: What we call co-curricular.

DR. BISHOP: It's co-curricular. They can be things -- you know, maybe we

ought to do a better job of figuring out how to offer a bioethics internship.

DR. GUTMANN: Right, right.

DR. BISHOP: We get contacted by students all the time who say, "I want to go into medicine, you know, I want to learn more about this." Perhaps we are building the gateway by developing internship materials, teaching people how to offer those, students and mentors, how to take the most away from those internships, how to talk about the ethical issues that you see.

Maybe it is creating other frameworks. Last year at Georgetown we did an undergraduate bioethics research showcase that tried to pull together all sorts of things that students had done across the curriculum that focused on ethics, and it also served as an inspiration and an opportunity for students to do de novo work that would not have existed if that opportunity were not there.

DR. GUTMANN: Yes, yes.

DR. BISHOP: So we had art projects, we had beautiful creative writing projects, academic papers.

You know, you could have student clubs. You can -- my colleagues in the classroom always talk about flipped classrooms. We are trying to do that at all levels, where you harness that interest in films, movies, television shows, have people watch things outside of classes.

I have my students build an educational website. They can pick topic areas that they are interested in, and then build a website for their peers that explores the facts, the ethical issues. So not everything has to be in a classroom period. And I think that would be an important piece to deliver.

And then also, I think I mentioned briefly better harnessing our professional

organizations. There are bioethicists across the country. There are education programs in bioethics across the country. There are philosophy departments, hospitals. You know, there are all sorts of resources that, if we built the bridge, the teachers would be supported, the classroom teachers.

They need access to expert knowledge and advice, so if we had people who were, you know, willing to speak in high school classrooms in their area, or willing to do an in-service for teachers on the latest things in stem cell research. That is a way to meet the concern that teachers have, that they don't know the latest, that they don't have the chance themselves to discuss these issues before they bring them up with their students.

There are summer seminars for teachers. We could offer a summer seminar in, you know, bioethics. We could build a MOOC that is -- you know, gathers together materials that shows expert lead teachers leading discussions. So there are a variety of possibilities.

DR. GUTMANN: Thank you.

DR. STEINER: [speaks off the microphone] We have to put them in tests, or they won't be taught. I am going to be very simple-minded about this.

We have a class system of subject matter in this country: those that we test for annual yearly progress, namely math and ELA; those we don't, namely science and social studies, but we still have some tests; and those we don't test at all, the arts, foreign languages, phys ed, and all the other subjects. And they are almost never taught, and there is an exact causal relationship between those facts.

I am actually more optimistic on assessments. I had the privilege of hosting David Coleman last week at an institute event. We were talking about the transition in the SAT, and he promises far more to come with the AP. I think if the senior

assessments of those kinds begin to send signals to the other state assessments, we can start a cascading effect.

We have to persuade folks like David that exams can be about essay-based questions, motivated on judgmental issues. So, gather your empirical data around a claim, but the claim can be normative. That is how most countries test at a high school level.

Every schoolchild in France had to answer the question recently, "What would persuade you that knowledge of the self can be sincere?" Four hours, no notes. Well, in order to answer a question like that, you had better be able to assemble a lot of empirical facts. Otherwise, you will be spinning nonsense for four hours.

So, I think there is modest hope that our assessments are maturing, very slowly. And the universities have a huge role to play. Because if they send the signal to the SAT-makers, like David, they will respond, as will -- you are right, the international baccalaureate has the international A-level, which is now in 122 countries. These are assessments that are more sophisticated.

And then -- yes?

DR. GUTMANN: So, David, can I just --

DR. STEINER: Yes, yes.

DR. GUTMANN: I agree with things that you have said, post the sound bite --

DR. STEINER: Right.

DR. GUTMANN: -- which is if it is not tested, it won't be taught.

DR. STEINER: Right. At scale.

DR. GUTMANN: At scale.

DR. STEINER: Yes.

DR. GUTMANN: That is true, at scale, because that means that those schools, which just will invariably teach to the test and --

DR. STEINER: Yes.

DR. GUTMANN: -- do no more will just teach to the test.

DR. STEINER: Exactly.

DR. GUTMANN: But there is a lot -- a large gap between at scale and where we are now.

DR. STEINER: Yes.

DR. GUTMANN: And most -- a lot -- the trend in universities is to require fewer and fewer of the -- require fewer and fewer of SATs and ACTs. Many colleges and universities now don't require them at all. We still do, but we require fewer, and we argue for fewer. So the competition to get into the wide range of universities that have very high graduation rates and very good placement is actually less and less test-based, because all tests also have testing preps like Princeton Review --

DR. STEINER: Right, right.

DR. GUTMANN: -- and Kaplan, which, again, privilege the most privileged.

DR. STEINER: Sure.

DR. GUTMANN: So we look at other things.

DR. STEINER: Sure.

DR. GUTMANN: So I would just --

DR. STEINER: You are looking for the in-between space.

DR. GUTMANN: I would look at --

DR. STEINER: The trouble there is we go to coursework, right? I mean that is the next -- if we are staying in school, then --

DR. GUTMANN: Yes, yes, we do go to coursework, and we have --

DR. STEINER: Then we go --

DR. GUTMANN: -- to provide --

DR. STEINER: Right.

DR. GUTMANN: -- materials and so on, and we have to -- it is not just about what you teach, but how you teach it.

DR. STEINER: Right, of course.

DR. GUTMANN: Right?

DR. STEINER: Right.

DR. GUTMANN: And --

DR. STEINER: So --

DR. GUTMANN: Getting -- and there is good evidence -- and here is the big and, I think -- there is good evidence to support the, you know, "Tell me and I forget, teach me and I may remember" --

DR. STEINER: Right, right.

DR. GUTMANN: -- "engage me and I learn," that the more engaging ways of teaching, which are the deliberative ways of teaching --

DR. STEINER: Right.

DR. GUTMANN: -- teach facts that are --

DR. STEINER: We agree.

DR. GUTMANN: Okay.

DR. STEINER: We agree.

DR. GUTMANN: Okay.

DR. STEINER: That the difficulty is not -- we have no disagreement on the

pedagogics. The problem is that, as you mentioned, the finite time for the science and other courses is circumscribed again by the state standards in science, the textbooks which are written to those standards, and then it takes an enormous amount of energy and initiative on the behalf of teachers to step outside of that. Now, they can, and they do, of course.

DR. GUTMANN: I would say it takes --

DR. STEINER: But --

DR. GUTMANN: -- energy and initiative, and I will stop.

DR. STEINER: Right.

DR. WAGNER: We need to --

DR. STEINER: Right.

DR. GUTMANN: Right, we move on.

DR. STEINER: Right.

DR. GUTMANN: But I was educated in New York State with the state regents.

DR. STEINER: Right.

DR. GUTMANN: And the better teachers taught me more, and I did better on those regents, than the worst --

DR. STEINER: Of course.

DR. GUTMANN: Okay.

DR. WAGNER: We got Dan, Anita, and --

DR. SULMASY: Well, let me join others in thanking both of you. I think we have rarely had a sort of pair that was matched exactly this way, highlighting both opportunities and barriers, as well.

Let me give you some of my also New York experience. When I was at St.

Vincent's New York Medical College, Stuyvesant High School sent, you know, students over, and they had teachers who were engaged. Nobody came from Brooklyn, nobody came from the Bronx to do -- to attend seminars on medical ethics.

And a lot of what I have heard, Laura, you are talking about, is sort of opportunities that are kind of elective. And I wonder how we can, in fact, get this out to all students, because, you know, disadvantaged kids' moms die, too. And, you know, and often earlier, and they have real issues they have to cope with.

And so I am wondering, you know, besides just sort of putting it on the test, what ways there are of really beginning to make this sort of integrated into schools across the -- [speaking without mic]

DR. BISHOP: Yes, Dan, if I can, it is a complete -- I left you with a complete misunderstanding, if you think that I am talking about elective classes. Our approach has been exactly the opposite, which is that you infuse some questions into existing classes. There are some schools who have had the luxury of being able to create elective classes. But our goal always has been to help teachers across the curriculum think about the ethical aspects of what they are already teaching, and be able to raise those ethical issues.

So it is not requiring a new class, it is requiring a new aspect to teaching. And teachers are able to do that if you support them with the material, the opportunity to discuss it with their peers, both within their discipline and outside of that, and give them some structured classroom discussion. So completely the opposite.

DR. SULMASY: Thanks for clarifying at least that part about the elective. It still doesn't fully address the question of which schools will have the opportunities to do that, and that is part of what I would like to hear more about.

DR. STEINER: First of all, there is an opportunity, always, when states set new standards in the sciences, as they have very recently with the Next Generation Science Standards. I was somewhat disappointed, I must confess, in preparation for this panel, in re-reading roughly the -- most of those standards, how tame they were on anything that approached a normative question.

But, of course, more than half the states in this country have not adopted those standards. And there is a real opportunity to work with state commissioners, state school boards, to educate them into overcoming this terribly destructive is/ought distinction, which has done more damage, I think, to serious thinking among our students than many such distinctions. So that's the first thing.

The second is that we are in an era of exploding online curriculum resources. You were kind of enough to mention Engage New York. We are in the -- beginning to be in a post-textbook era and the key now will be when we put these rich resources in bioethics up on places like Engage New York, they have to be linked to the Common Core or whatever the standards are that the state has adopted. Otherwise, forget all scale, your middle ground, we will not get thousands of schools to adopt.

So there's work to be done. It feels a little artificial to shoehorn this rich material into standard B3-C1, but unless the teachers see that, they will have every excuse to say "Not here."

DR. GUTMANN: So just there is one -- I mean, just so we know because not everybody knows the Common Core Standards include things like evidence-based reasoning --

DR. STEINER: Exactly.

DR. GUTMANN: -- and we could give bioethics modules --

DR. STEINER: Yes.

DR. GUTMANN: -- that fit evidence-based reasoning.

DR. STEINER: Absolute --

DR. GUTMANN: We just had a group of middle school students --

DR. STEINER: Uh-huh.

DR. GUTMANN: -- to the Penn Museum of Anthropology and Archaeology looking at the mummies and Rameses III, the big --

DR. STEINER: Right.

DR. GUTMANN: -- and those things, talking about -- figuring out from the museum what the evidence was for Rameses's rule and what kind of --

DR. STEINER: Right.

DR. GUTMANN: -- rule it was. We can do that for bioethics and that's what --

DR. STEINER: Right.

DR. GUTMANN: -- you're talking about.

DR. STEINER: That's what I'm talking about. Very quickly, remember that science literature is supposed to be part of the nonfiction reading in the Common Core yearly standards, right? People forget this. They think science is just in science, but the reason David Coleman insisted that 70 percent of reading in high school for Common Core be nonfiction could only be made possible by including social studies and science.

So my suggestion is that when we support bioethics materials for high schools, they have to come with sophisticated structures that enable them to be put into Common Core classrooms.

DR. BISHOP: And I would certainly agree with that. If you are familiar with bioethics and you look at the Next Generation Science Standards, you look at the

literacy standards, the comparison between the two, which the Next Generation did for you, if you're familiar with bioethics, you think this is exactly what bioethics can do and David's right. If we start with the teaching, link it to those standards, and I think the other thing too is, is that if you start with teachers who want to do this and do it even with the existing tests and then we can show there's better test taking with those background skills, that's one approach to bring other people onboard.

DR. ALLEN: Thank you. This has been really stimulating and I learned from both of you.

David, you're the one who suggested we look at the Smarter Balanced document, the ITF, as a source of that document, and when I read it, I thought it was a parody because -- I mean, here are the things you can't talk about it and I have taught for over six years a applied ethics class at the University of Pennsylvania to college undergraduates and the things you can't talk about were all on that list, abortion, death, dying, torture, drug use, animal rights, and it was outstanding to me that someone would think that young people should not be presented with these topics because they're too disturbing or upsetting.

On the other hand, I can recall a lot of topics being mishandled in my own education and being distressed by those topics and thinking that in a world that was more just and fair, I wouldn't have to have my grades based on such questions and topics.

So I -- it seems to me that there's a couple things that I would worry about. One is, you know, what topics can be taught and I think we should be extremely open and liberal about what topics can be taught. Nothing should be off the table. Every topic should be discussable, but then there becomes a question of, well, what facts or what

science do you offer relating to those topics and that's where I think we can potentially get into trouble.

I'm reminded of when I was a young girl back in the '60s in high school, if my teacher were to have said to me, "Go to the library and look up in the encyclopedia the article on negro, right? What's a negro? Well, it's a lazy human being with low intelligence and this wiry hair like, you know, material that grows out of the top of their head and that was literally what was in the encyclopedia in the 1960s about race.

So the science that we teach needs to be very carefully looked at and examined to make sure that it's not insulting and false and bad science, but, I mean, it's so hard from your own point of view today to know whether the science you're teaching is ridiculous, like that stuff was, or whether it's actually good science.

Imagine teaching the bioethics of, say, the biological basis of intelligence today. You could easily, you know, teach some bad science or you could teach good science, but it's something which someone has to decide what facts, what science is good and bad and appropriate.

And then, finally, you choose your topic, you decide what the factual basis of a topic is going to be and then you have to teach people about opinions, values, policies, et cetera, relating to the topic and it's also where one can get into trouble, right, because one can teach only one side of the issue or teach -- be dogmatic or -- about the subject matter. So there's problems there as well, but I guess I think we need to confront those issues.

We need to be able to teach science, even though we know some of the science is going to be bad and we need to be able to teach values and teach opinion, knowing that some of those opinions and values are also going to be bad.

DR. STEINER: You've put your finger on probably the most difficult issues before us. I'm currently a newcomer in a city where 9 percent of African American children graduating from high school are capable of doing a community college course without remediation, in a city in which adult African American unemployment is just tragic, and where a whole generation of students feel that they and their parents have been completely disenfranchised from any opportunity of the American dream and they have the facts to prove it.

Discussions about the topics you've just raised are on flashpoints. Schools and universities are tiptoeing around these issues. They are trying to put ribbons around them and keep them from debate and not only at high school, but at universities. As you know, universities across the country are once again on -- walking on edge. Fellow college presidents in the last few weeks have been speaking on this topic, concerned about the issues on their campuses.

So we have a paradox. We have an education system that internationally is falling further and further behind. At every income level, our students are learning less than their international peers. People often forget this. They think it's only about the poorest children. It's at every income level.

We are creating an infantilized education system, and at the same time, we are terribly frightened about raising difficult questions with our students. How we manage that situation and move to a more mature space, a pedagogic space where we can ask what makes good science, what do we -- what are we going to argue about in terms of evidentiary bases, what's the distinction between an opinion, which we can all have, and a judgment, which may be something different based on an appeal to empirical facts, can we, as a society, move past the ever-shrinking zone of safe speech to thoughtfulness

or are we going to keep shrinking? Are we going to be more and more afraid?

There's nothing productive about that fear, nothing, but it is the natural instinct when you are frightened about your society and about the inequalities of your society.

So I am pessimistic in the very short run, I'm going to be honest about that, because I think we're in a moment of fear and retrenchment, but I have to be optimistic for our democracy in the long run because we have to move to a point where we again challenge our students with serious questions about what a piece of evidence means, about what is worth thinking about and discussing, and so I think that tension between the mission of education and the fear in our society is underneath everything we're talking about and I thank you for putting your finger --

DR. ALLEN: Thank you. I agree and I think I share your optimism about our democracy.

DR. FARAHANY: Thank you for both of your presentations, as well as this conversation.

I'm encouraged in some ways, although David you're doing a good job of discouraging me, but I'm encouraged in some ways and I'm still left wondering how it actually works on the ground. So you had a lovely quote early on in your statement about the use of knowledge versus knowledge itself and I think that's right way to think about it. Part of what Amy said, part of what Anita has asked about gets at the basic of that question more generally in education, right?

So we teach knowledge to the extent that we do, but not the use of knowledge and the questioning of knowledge and it isn't just in bioethics. It's in every area. It's every area of normative decision making.

Now, there's a natural case to make for bioethics, which is we're already teaching

the sciences, so we should be teaching the use of knowledge with respect to the sciences, but if we're not teaching that as a skill at all, if we're not teaching thoughtful reflection, why bioethics as opposed to even the most basic skills of questioning knowledge, the most basic philosophy of science, the most basic kind of critical reasoning and thinking skills?

Amy mentioned that in history, for example, that, you know, we're not teaching those questions. So while I think all of us here think that bioethics is one of the most critical types of topics that we might teach, I could imagine an argument could be made quite reasonably that -- particularly at the high school level -- the right answer is to be teaching the most basic normative questioning and judgment skills and that perhaps bioethics as a more specialized skill is something that you would teach later after you've taught those basics. So sort of a where do we prioritize and how do we actually shift the baseline so that we're asking these more fundamental questions about the use of knowledge.

And a second sort of just question and thought and concern, and this was I think echoed a little bit in what Anita said as well. So if we want to teach students how to think and not what to think, I worry at the university and college level, you know, there is, over the past 50, 60 years, a significant trend away toward ideological diversity and toward a particular school of thought within colleges and universities. I think that that's also reflected in high schools and in earlier stages.

And bioethics is an area of obviously significant divisiveness and different divide and especially at formative years in high school. If we're going to teach how to think, what I would hope is that we're teaching how to think, not what to think about bioethics issues to empower students to be able to arrive at their own conclusions, but be able to

do so in a safe space where it's okay to have a different perspective. It's okay to believe whatever you believe, so long as you start with facts and then learn how to build from those facts. So --

DR. GUTMANN: How to reason --

DR. FARAHANY: Exactly, how to reason through those. So how do we not only incorporate the fundamental questions about the use of knowledge at the most basic level, but teach it in a way that would be neutral and safe for students to be able to learn without a particular ideological slant so that they are empowered to think whatever they may think once they learn how to reason to get there.

DR. GUTMANN: Yep.

DR. BISHOP: Well, the most excellent teachers who are teaching in bioethics, you start at those very basic levels. You are teaching about how to construct an argument, how to critically assess something. The very first classes are always laying the ground rules for discussion. How do you listen? How do you respond? What does that mean?

So there is a lot of work at the beginning of any bioethics discussion, whether it's infused into a biology class where they repeatedly touch on case studies as they learn each new subject matter or if it's a standalone course, there's a lot of effort put into and there should be in whatever comes from here, the foundation.

How do you do this in a classroom? How do you create that safe space? How do you teach students about respectful listening and constructive ways to respond where you express your opinion and you don't attack what somebody else has said? You look for the evidence. What are the facts on which they're basing their position? What are the ethical principles or ethical approaches that they're using to guide their decision

making?

Those are all fair questions that a student might ask his or her peer, but not to challenge the particular position.

DR. WAGNER: Before you jump to the next -- your next thought there, what do you and Nita mean by safe space and how do you think that compares to what some of our campuses mean by safe space?

DR. BISHOP: I think what we mean in the classroom is a place where a student is able to be thinking through what their positions are. This may be the very first time that they actually think about a particular issue and try to figure out at least where they stand at the beginning on this. I mean this is something that we all do throughout our lives, continually assess how we feel about particular issues.

So a safe space being one where you can try out different positions, where you can learn from your peers the information that they bring. We always -- you know, where you can ask questions, where the fact that you don't have an answer doesn't mean that you're dumb. It means that you're still thinking about it. So it -- so basically you create this environment where you're working together to come to the best answer for each one of you on a particular topic.

DR. WAGNER: I'm pleased to have that definition in our transcript.

DR. GUTMANN: Would you agree with Nita's point -- I think it is a point. It's a -- but as a question, would you agree that if we argue for bioethics, we ought to argue that there is -- the fundamentals of what bioethics builds on are the ability to reason through issues that have an ethical component to them like why there was a Civil War in this country? You can't understand that without understanding something about the clash of ethical argument.

DR. BISHOP: Yes, and I think the reason -- bioethics teaches us fundamental skills, it has a place for all of them, but it also provides the narrative or provides the basis to which you apply your critical reasoning skills or your research skills. It provides the framework. If you just talk critical reasoning with no material to work with --

DR. STEINER: Right. I --

DR. BISHOP: -- it would not be --

DR. STEINER: -- I used to annoy teachers no end, well, many ways, but one way was to say that for the next 30 -- yeah, for the next 30 seconds, we're going to think critically about nothing in particular.

I think that we need to avoid over meta theorizing here. The best teaching starts in the content and what the best public and charter schools across this country are showing at every age level is that we are massively under teaching our students. If you go into some of the really difficult neighborhoods in New York, for example, and see the classrooms, it's astonishing what the students are dealing with.

So I think in answer to your question, it's not about this topic being sort of too difficult, secondary, tertiary. These are fundamental issues that particularly students, living the lives that these students live, are encountering every day. I think the crucial issue is to allow the frame of reference to emerge from the debate.

Very quickly, though, I don't want to make this too easy on us, my -- you know, a belief in God as an argument in a bioethics discussion has a curious status that might be different from its status in other domains. I don't think it's so simple and, you know, we -- that's why, in some ways, teaching this within an ELA framework where you're dealing with different belief systems as evidence for where you stand may be as rich as

putting it in a purely science framework, but there are very difficult questions, goes back to your point, about what constitutes the evidence that is legitimately advanced into the safe space.

DR. FARAHANY: So I just wanted to -- you asked both of us what we meant by --

DR. WAGNER: Yeah, I did.

DR. FARAHANY: -- safe space and I think I agree largely with what Laura said. You know, I've been thinking, of course, about what we're seeing at universities right now with respect to safe space and that is different, of course.

So the challenge right now, I think, there is a tension, of course, between a concern about a safe space that is free from things like, quote, "micro aggressions," free from people feeling as if they are hearing things that make them uncomfortable, hearing things that feel like an assault on them, feel derogatory on them, and teaching students to be able to talk and express their ideas, even learn where their ideas might be a micro aggression, might be something that is uncomfortable.

And so I think for me a safe space is being able to voice ideas without fear of offending people, being shot down, being told that you cannot speak, but then being shown in a compassionate and helping way, you know, here is why the thing that you're saying, you need to dig deeper, understand what's motivating what you're saying. Is this built on a stereotype? If it is built on a stereotype, let's dig deeper and understand what builds that stereotype and is it a flawed stereotype, but a space in which people can actually have the dialogue.

And so what my concern is, and when I say safe space is, I think the debate that's happening on college campuses is, of course, happening in high schools and of

course is going to be infused in a conversation about bioethics. So, of course, these issues touch lives fundamentally, but could we teach some of the skills to first have the conversation in the context of why did we have a Civil War to begin with in this country to enable people to learn the dialogue, learn the basic skills, and then be able to have conversations. How do we create a safe space where people can openly discuss and learn how to discuss ideas in a high school?

DR. STEINER: With great respect and rapidly, the environment of an inner-city large public high school cannot be defined so precisely, so carefully, so exquisitely as you have done. It's an aspiration, of course, but digging in the sort of [indistinguishable] like fashion all the way down to the subconscious issues of identity politics and the races too is me or whatever, not probably not possible in a rough and tumble inner-city school. What can be done is to give some broad guidelines to avoid direct insult, of course, and to encourage try outing -- tryouts of ideas, but if we try to be too precious about it, we'll lose the debate.

DR. HAUSER: So I'd like to thank you again for wonderful presentations and discussion, and I've been thinking a lot about the issues that you've raised, David, and would like to just highlight what I think is part of an important solution, which is the broadening of educational experiences outside the traditional settings. You commented on some of this, Laura, and would just like to describe a personal example.

At UCSF, we created a diversity scholars program in the neurosciences last year funded by companies in Silicon Valley and one student from each of 25 Bay area high schools were selected by their teachers and schools, motivated teacher -- motivated students to begin with to join these programs. They had stipends for the summer. They had their initial interactions in the spring while the school year was still going and then

it was a full summer program, and as you know, scientists and university scientists aren't obedient and the curriculum was broadened and sometimes not scripted.

So the exposure was great and it was deep in bioethics because that's what makes science real to youngsters and maybe to all of us. It's the examples that hit home. And I'm still getting e-mails from these kids every week. They made tight connections. I think it probably helped the faculty -- helped us as much as it helped them, but it was a very good model for us.

DR. STEINER: I think we approach reform in education from two directions necessarily. One is from the ground up and that's where one's optimistic. You see a thousand new ideas blooming. You see everything from MOOCs to high -- early college high schools with experiences ala P-TECH in New York where you can work for IBM while still getting your associate's degree, while still being in high school, and I think that we can all cite these extraordinary examples, and I do mean extraordinary, of teachers going way outside of school, of summer experiences.

And then we look from the structural point of view at 54 million school children and we have to because doing this by points of light leaves out millions of school children, every school child who didn't get to be the one who was selected, and that's what worries me. I worry about the many, many, many students in very ordinary schools with very ordinary experiences and that's, I think, also what we have to be -- so it's both.

We never should give up on the wonderful experiences we make possible for a few and make that larger, but never forget the scale of what we're dealing with here, which is quite extraordinary.

DR. BISHOP: I mean, I agree with David. My goal is that every student would

be able to have this type of discussion. I think perhaps the best way, though, to make it grow is to begin with what we can do, knowing that the goal is not to be exclusionary, but to pick those teachers who do it -- who can -- who are interested and will do this well and you provide with information because when that goes well, they become -- they have more expertise to share with their colleagues.

It begins -- so I think the ultimate goal is always to make this possible, and as I mentioned, it does not require a lot of expensive resources, the daily lives, the newspaper, the television shows, but teachers do require access to experts. They do require quality materials. They do require training in how to do this in schools, but I think the fact that we ultimately want to reach everyone shouldn't mean that we don't start with something.

DR. GUTMANN: I just want to close out by making sure that -- or whether -- seeing whether you agree that there are big parts of bioethics that aren't as hot button and controversial, I don't -- as the ones you all cited.

So how you live a healthy life, what a healthy diet is, these things are very basic and are -- if they're missing, if a discussion in biology is missing how important it is to be healthy so you can do other things in life and what being healthy entails, I mean, there are -- I just want to make sure that we don't leave this excellent discussion with the impression that everything in bioethics is this incredible controversial issue.

It's the analogy to slavery is heinously wrong and you have to -- there has to be an appreciation of that in history, otherwise you can't understand the Civil War and the controversy that existed at the time. So I want to make sure that what Anita and everybody else was saying, there's a -- do we agree that there's a foundation in bioethics at the elementary and secondary level for teaching the basics of how we all support

living healthy life and a healthy diet and things that are really fundamental to our progress in the bioethics sphere.

DR. STEINER: Yes and no. Yes, because there are -- there's information to be learned about how a life is sustained and what good nutrition is. I think the word "ethics," though, presses us to difficulty. A healthy life versus what -- in terms of diet, an anorexic life, for example, anorexia is already a source of tension and disturbance.

So, of course, there are -- within science, within discussion at early grade levels, there are a lot of issues that can be -- can remain safe, if you will, but I think when one really is talking about bioethics, the normative edge comes in fairly quickly in the very word that we're using. So --

DR. GUTMANN: Normative, but there --

DR. STEINER: Yes.

DR. GUTMANN: -- isn't an edge to everything that's normative. I just -- I'm not trying to push out the other, but --

DR. STEINER: Right.

DR. GUTMANN: -- we have to include the things that are agreed upon that have a normative word attached to it. Healthy is normative. It's also got a factual basis and that's -- we very much, as a Commission, stood for bringing ethics and good science together and there will be issues, but -- that are controversial, but there are also --

DR. WAGNER: Of course. And there are --

DR. GUTMANN: -- be consent. There'll be a consent -- there are consensual issues in this space and it's important to teach and establish them and move from there to the more controversial.

DR. WAGNER: They're not great fodder for deliberative process, however, than

some of the others. Look, we're going to have to take this fight out in the hallway, but I do want to say --

DR. GUTMANN: They're not great fodder, of course.

DR. WAGNER: -- and touché. As Amy had said, this has been a wonderful conversation and --

DR. GUTMANN: Definitely.

DR. WAGNER: -- it's owing and it's great thanks to you, Laura and David.

Thank you very, very much.

(Applause.)

(A brief recess was taken.)